

Proposal

09/30/21 11:52:42
WV Purchasing Division

PROPOSAL — ROW Management System

STATE OF WEST VIRGINIA
Department of Transportation
CRFP: 0803 DOT2200000002
September 22, 2021

From: DELASOFT, INC.

92 Reads Way, Suite 204
New Castle, DE 19720

PHONE: (386) 214 5164
FAX: 302-266-7116

PRIMARY CONTACT

Jay West
jay.west@delasoft.com

SIGNATURE



September 27, 2021

4.3.5 – Transmittal Letter

Tara Lyle, Buyer Supervisor
West Virginia Purchasing Division
(304) 558-2544
tara.l.lyle@wv.gov

Re: ROW Management System 62210C002

Ms. Lyle,

Delasoft, Inc. would like to submit for consideration this Proposal for the State of West Virginia's Department of Transportation.

Delasoft is uniquely qualified, based on our extensive experience developing custom software solutions for entrance permitting and geospatial data management, to achieve the business objective of developing a ROW Management System. Delasoft, Inc. has implemented permitting-centric software products and development software in six states, including Delaware, South Carolina, Virginia, New Mexico, Oregon, and Arizona. With clients across different state codes, practices, resources, and methods, we have a thorough and comprehensive understanding of government agencies and their needs. We use our experiences to provide flexible, scalable, and versatile permitting software so that our clients will have long-term solutions.

Delasoft will be the primary contractor for the State of West Virginia and responsible for the performance, including all project management, legal and financial responsibility for the implementation. This proposal and the price contained herein are binding upon Delasoft, Inc. for a period of 180 days from receipt of the Best and Final Offer or from submission if no BAFO is requested. We affirm that we are the original equipment manufacturer of the proposed software solution and confirm that neither we nor any subcontractors presently have an interest, direct or indirect, which would conflict with the performance of services under this contract. We shall not employ in the performance of this contract any person having a conflict. We further confirm that all staff members of the proposed team shall follow all WVDOT and State of West Virginia administrative policies, procedures, requirements, specifications, and standards. Delasoft is a Minority-Owned Business Enterprise certified in the state of Delaware. Our certification is included in the attachments.

We look forward to assisting the State of West Virginia with successfully implementing this project.

Best regards,



Jay West
Executive Vice President
(386) 214 5164

Satish Dola
President
(386) 214 5164

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4.3.7 Tab 1 — Executive Summary

Proposed Solution Products and Services

Delasoft understands that West Virginia Department of Transportation is seeking a full lifecycle right of way acquisition management system. Delasoft has the technology and expertise to create a flexible, efficient, and comprehensive solution with the capability to:

- Enter and maintain a full range of spatial and non-spatial data to support the ROW process. Delasoft technologies provide flexible platforms to allow administrators to fully manage the data model, user interfaces and business rules without code changes.
- Define and implement structured workflows to guide system users through the processes and ensure compliance with regulatory and functional requirements.
- Interactively manage spatial data in GIS or CAD formats to provide visual context to ROW locations.
- Provide configurable business rules to provide calculation and auto population capabilities to data editing and other workflows.
- Provide a full-featured document creation capability to manually or automatically create documents including formal letters, permits, and other notices. These documents can include auto-population of data from system records and are fully configurable by authorized users.
- Provide tracking of activities and communications related to project records and maintain full editing history for each item in the data model.
- Enable electronic review and approval processes for critical workflows.
- Provide comprehensive query and reporting capabilities.
- Provide integrations with existing WVDOT business solutions including HUB, wvOasis, Projectwise, BRIM, TAMS and Esri enterprise GIS.

Experienced Delasoft team members will lead a formal requirements and design process to capture all functional requirements details related to ROW acquisition activities including appraisals, condemnations, relocations, property management and all document and correspondence management.

Delasoft provides software modules that provide an unprecedented level of control and configurability. Solutions built on these modules can be modified by a system administrator without code changes as regulatory or business requirements change. Key features include:

- Full administrative control of data items, types, user interfaces, domains, and default values.
- The most comprehensive business rules engine available including the ability to configure state changes (enable/disable), setting values, altering domain lists, showing user alerts, sending user notifications, and creating notice documents from templates. These business rules are defined in an administrative interface that allows for complex conditions to be defined by adding conditions from dropdowns and entering values.
- Fully configurable document template management and formal document creation. Authorized users can import Word documents or create new documents to create

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templates for document creation. Templates can be embedded with data items from the system record or with sub templates as needed. Business rules can be created to automate the creation of complex documents that reflect the current record conditions. Users have access to a full online Word editing environment to edit templates and documents as needed.

- Automatic data population from GIS data sources including Esri ArcGIS Enterprise services. The administrative interface allows for the definition of source data from Esri REST services to be populated on record creation.

Delasoft is proposing the construction of a ROW solution built on several proven software modules. Each of these modules will provide the tools and interfaces to meet the requirements outlined in the requirements matrix. Each of the modules is listed below along with a summary of the requirement types that will be met.

- Interactive Mapping Module – Parcel selection and editing, enterprise GIS data display.
- Data Management and User Interface Module – Data model access, user interfaces, business rules implementation, questionnaire implementation.
- Document Creation Module – Letter and notice generation, signature and approval management.
- Reporting and Dashboard Module – Ad hoc and canned queries, summary record display, communication history display, system statistics, status summaries, work items summaries.
- Platform Administrative Module – User and role management, user interface configuration, status sequence management, workflow definition, business rule configuration.
- Data Migration and Bulk Loading Module – Data import/export management, bulk query management.
- Document Management Module – Document and attachment submittal and storage.
- Cross Platform Mobile Application – Inspections and field data collection.

Summary of Planned Approach

Our approach will focus on **Agile Methodologies, Rapid Application Assembly and Configuration, Quality Assurance and Quality Control** that deliver the needed functionality to production regularly and frequently. Delasoft will implement the proposed solution using a hybrid development methodology of both Waterfall and Agile. Our hybrid approach combines the best of Waterfall and Agile, injecting agile methodologies into a loose waterfall process to increase speed, decrease risks, and improve quality.

Delasoft proposes construction of a highly solution built on several proven software modules. Each of these modules will provide the tools and interfaces to meet the requirements outlined in the requirements matrix. Thus, a significant portion of the implementation effort will be focused on configuration of the application to support the various Right-of-Way Sections. Successful configuration requires an understanding of the ROW processes, legacy data, as well as any special program-specific needs.

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Delasoft's approach to this is to conduct an initial Analysis Phase, followed by multiple Configuration and Implementation Phases to incrementally transition each ROW's Sections requirements into the desired solution.

Successful implementation will require extensive training and significant WVDOT participation, including identification of dedicated staff who understand application functionality and configuration. This is essential to positioning the agency to be able to support the administration and modifications of the application after the project is complete. A critical success factor to achieving this end is training of staff who will perform these roles. This will be accomplished initially by formal training. However, the best way to learn is by doing, and identified staff would engage as part of the implementation team, actively participating in configuration of the application throughout the project and providing end-user training via a train-the-trainer model.

Successful Public Sector Implementations

The following project implementations have been completed using a combination of the modules proposed for the VPS. Each of these implementations is an enterprise solution deployed at a state Department of Transportation and are actively supporting wide ranging business needs including data management, reporting, permitting, linear referencing system support, transportation asset management and outdoor advertising management.

Delaware Department of Transportation – Transportation System Data Management (TSDM)

Modules Used:

- Interactive Mapping Module
- Reporting and Dashboard Module
- Platform Administrative Module
- Data Migration and Bulk Loading Module
- Document Management Module

TSDM is a solution to manage and control the life cycle of road inventory features and serve as a repository for geospatial data. The application allows users to validate, analyze, and view data on a map interface alongside other GIS data and custom attributes. TSDM has following key features:

- An interface for centralized geospatial data maintained by various DelDOT business groups.
- UI to report Data issue/s.
- Centralized linear referencing system services
- Map-enabled road inventory data collection for line/point/polygon features.
- External System Integration (Pavement Management System/Bridge Management/Workorder System/ADA/etc)
- Powerful query builder for geospatial analysis
- Dynamic GIS data creation for road features

Custom validation processes to sync with FHWA and HPMS.

Oregon Department of Transportation – Outdoor Advertising Control System (OACS)

Modules Used:

- Interactive Mapping Module

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- Data Management and User Interface Module
- Reporting and Dashboard Module
- Platform Administrative Module
- Data Migration and Bulk Loading Module
- Document Management Module
- Cross Platform Mobile Application

Delasoft was contracted to develop a permitting solution to allow customers to fill out and submit applications and equip DOT staff with the tools to review, approve, and manage permits. OACS has a payment system, inspection tools, automatic notifications, and powerful record management utilities to assist DOT employees in managing hundreds of billboards and roadside objects across the state.

South Carolina Department of Transportation – Outdoor Advertising Control System (OACS)

Modules Used:

- Interactive Mapping Module
- Data Management and User Interface Module
- Reporting and Dashboard Module
- Platform Administrative Module
- Data Migration and Bulk Loading Module
- Document Management Module
- Cross Platform Mobile Application

Delasoft was contracted to develop a permitting solution to allow customers to fill out and submit applications and equip DOT staff with the tools to review, approve, and manage permits. OACS has a payment system, inspection tools, automatic notifications, and powerful record management utilities to assist DOT employees in managing hundreds of billboards and roadside objects across the state.

4.3.8 Tab 2 – Vendor Company Profile

Delasoft, Inc. was founded in 2002 as a software consulting and development company. Since its inception, Delasoft, Inc. has grown to over 200 employees working with Fortune 500 companies and state governments across the United States.

Delasoft, Inc. is engaged in the development of custom GIS applications using various technologies such as ArcServer/ArcSDE, Oracle Spatial, Google Maps API leveraging .NET and Java/J2EE technologies. Delasoft has developed several software applications for state transportation departments including permitting systems (Utility, Outdoor Advertising, and Entrance Permitting), Transportation Centric systems (Transportation Systems Data Management (TSDM), Map Entry Application for Projects (MEAP), HPMS Automation and Reporting, Road Video Viewer, Traffic Incident Locator Tool), and other web-based programs.

Delasoft, Inc.’s corporate office is in New Castle, Delaware, with additional offices in Kentucky, Florida, Illinois and Oklahoma. In 2019, Delasoft realized approximately \$20,000,000.00 in revenue. Our executive team, led by President Satish Dola, Executive Vice President Jay West, and Vice President of Government Solutions Don Burris, has been curating Delasoft, Inc.’s development staff and network resources to build an effective, innovative team of software developers and transportation specialists.

Delasoft has not filed, nor has anyone filed against it, a motion for bankruptcy or insolvency in the past ten years, nor does it have any pending Securities Exchange Commission investigations. Delasoft is not involved in open or pending litigation in a customer matter. In the past five years, Delasoft has not had any public sector Right-of-Way, Utility Relocation and Railroad Agreement management system related contracts terminated for cause or convenience. Delasoft, Inc. has not been charged with a criminal or civil offense.

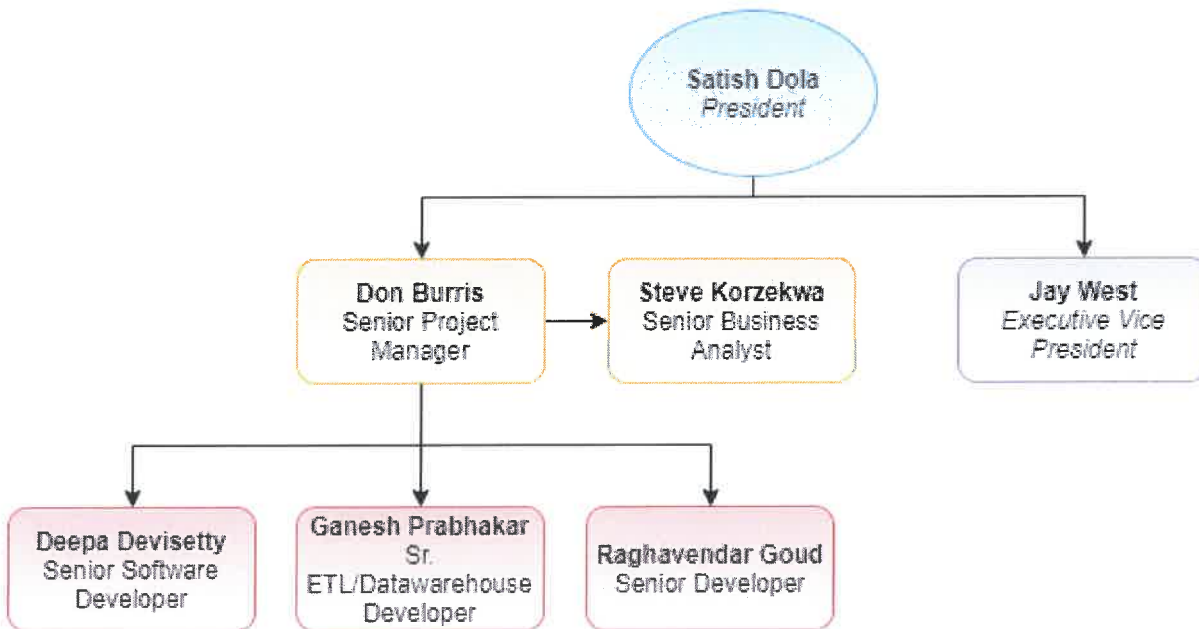


Figure 1 - Organizational Chart

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4.3.9 Tab 3 — Subcontractor Company Profile

4.3.9.1 Right-of-Way, Utility Relocation, and Railroad Agreement System Software Provider

No subcontractor companies will be used in the completion of this project.

4.3.9.2 Third Party Software Providers

No Third-Party Software Providers planned for this project.

4.3.9.2.1 Service Providers

No Service Providers planned for this project.

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4.3.10 Tab 4 – Licensed Product Information

4.3.10.1 Business Applications

Product/Module	Modules/Functions
Interactive Mapping Module	Web mapping controls to display base map and business data. Provides asset creation and editing tools, basic query and buffer functions and location management including LRS aware translations.
Data Management and User Interface Module	Core foundation for data management, user interfaces and complex configurable business rules. Provides administrative capabilities to dynamically alter the data model, user interface layouts and dynamic business rules. Configurable business rules can be implemented to automate data validation, internal and external communications, and complex custom workflows.
Document Creation Module	Provides tools to define complex document templates including embedded values, embedded sub documents and full Word-based formatting. Documents can be created manually or in response to automated business rules.
Reporting and Dashboard Module	Provides summary dashboards in graphical and text formats as well as query builder style ad hoc and canned queries and reports. Dashboards offer filter and query capabilities. Query tools produce datasets that can be filtered and exported.
Platform Administration Module	Provides an organized interface to manage all the configurable portions of the platform including data items, user interfaces, roles and users, status sequences, templates, messages and business rules.
Data Migration and Bulk Loading Module	Provides tools for managing initial data migration and bulk updates to data. These tools are generally modified to accommodate specific platforms, data structure and system restrictions.
Document Management Module	Provides the ability to submit and attach documents to records in the system. The administrator can configure document types to categorize them as needed. This module can be integrated with third party document management and storage systems.

4.3.10.2 Technology Products

Delasoft recommends staging three (3) environments as part of our standard design and implementation methodology. These can be segmented using Virtual Machines or separate hardware systems with some shared components.

- Development Environment – used to design and configure the new applications or where major changes to existing code is made.
- Staging/Quality Assurance Environment – Applications are moved to the Staging Environment for testing and acceptance by users.
- Production Environment - Applications are moved into the Production Environment once testing is completed and the system is accepted.

The following table provides the minimum specification for the servers that need to be purchased.

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Component	Operating System	Processor	Memory	Disk
Web Server	Windows server 2012 R2 or higher	Quad Core Xeon 2 Ghz or higher (If virtual then 8 virtual CPUs)	16GB (8 GB for DEV/UAT)	1GB (Only includes web application software. Does not include OS and other software)
Application Server				
Database Server	SQL Server 2016 or higher	Quad Core Xeon 2 Ghz or higher (If virtual then 8 virtual CPUs)	16GB (8 GB for DEV/UAT)	2 TB (Accounting for future growth) (Lesser for DEV/UAT)
Workstation	Windows 7 or higher		4 GB	

Infrastructure Diagram with network, desktop, and server requirements for all software

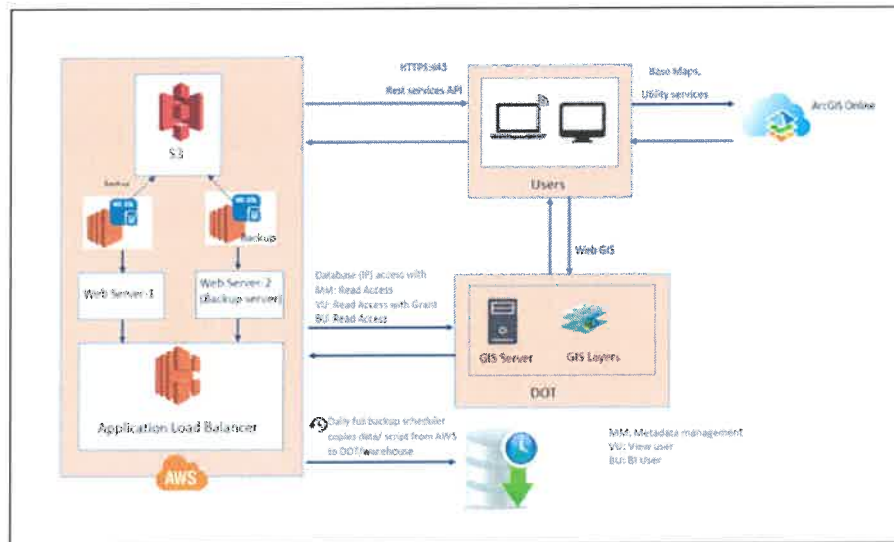


Figure 2 - Infrastructure Diagram

4.3.10.2.1 Ad Hoc Reporting Tools

Application/Software has the functionality to create two kinds of reporting:

- All the grid listing from the modules can filter using the header column and add required columns on the grid listing. Then the user has the ability to save this snapshot as reports which will be stored in reports module and also maintain access to it whether it can be used individually or share it across users. These reports can be modified anytime and can be downloaded in PDF/Excel formats.

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- The software includes a Report Builder in the Reports module. All the required Data fields tables will be presented in the Report Builder. A User with SQL knowledge or report building knowledge can use this section to build complex reports and save them for the use in the software or downloaded in PDF/Excel formats.

4.3.10.2.2 Business Intelligence Tools

Understanding Business intelligence (BI) tools are used to collect and process large amounts of unstructured data from various business sources, Delasoft will assist WVDOT with utilization of BI tools to provide a way of amassing data to find information primarily through queries. The tools will be used to help prepare data for analysis so that you can create reports, dashboards, and data visualizations. The BI tools will provide both WVDOT employees and managers with the power to accelerate and improve decision making, increase operational efficiency, and report KPIs.

4.3.10.2.3 Product Maintenance

Delasoft is dedicated to providing the highest quality of customer support to our customers through our Delasoft Customer Service Program (CSP) throughout the customer lifecycle. Delasoft will work with WVDOT to ensure its service level agreement is tailored to WVDOT's specific support needs.

Customer Support

Delasoft's Customer Support, located in New Castle, Delaware corporate office, provides technical support between 7:00 a.m. and 6:00 p.m. Eastern Standard Time, Monday through Friday, excluding Delasoft-observed holidays. The Customer Support team responds to all client issues and routes technical incidents accordingly based on the nature of the incident. Our Customer Support team strives to provide an unparalleled level of superior service, which includes:

- Escalating incidents to other Delasoft support teams as necessary
- Documenting incidents and their resolution in our customer support and ticketing system -- Freshdesk
- Communication of information in a timely and professional manner
- Communicating the progress of open incidents with customers up to and including resolution
- Ensure forward progress by tracking the duration of open incidents
- Delivering fixes and workarounds for incidents as needed

Support Services

The following services are included in Delasoft's annual maintenance:

- **Telephone Support** – Delasoft's telephone number to contact Customer Support.
- **E-Mail Support** - Delasoft will provide an electronic mail address for submission of routine or non-critical support requests 24 hours a day. Delasoft will address submitted e-mails during its regular business hours.
- **Remote Support** - Delasoft will provide remote assistance via mutually acceptable remote communications such as GoToMeeting and Skype when required to resolve maintenance requests.
- **On-Site Support** – When remote support is not effective, Delasoft will provide on-site assistance, which will be billed at Delasoft's support rates unless customer is covered under valid maintenance.

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- **Software Updates-** Delasoft will provide revisions of and enhancements to maintained software products so long as Customer has a paid-up subscription.

Incident and Escalation

When the Customer Support team receives an incident, it is tracked until final resolution using Freshdesk. The assigned Customer Support team member will manage the progress of the incident, and notifications are communicated at critical milestones. The escalation process adheres to the following path:

- **Ticket Initiation:** An incident ticket can be initiated by the customer via the Freshdesk tracking system portal or information can be provided to Customer Support and entered into the incident tracking system. The incident is assigned an identification number and a Customer Support team member.
- **Requests for Information:** The Customer Support team member provides the information and either closes the incidents or escalates to the appropriate resource.
- **Customer Questions:** The Customer Support team member explains to the customer how to accomplish the task in question. The incident is then closed.
- **Software Issues:** Upon confirming that the issue is not related to usage, the Customer Support team member performs an issue analysis to determine the cause of the incident.
- **Enhancements:** The Customer Support team member gathers information about the requested enhancement. Once documented, the Customer Support team member escalates the incident to the appropriate resource within Delasoft, based on the request.
- **Service Requests:** The Customer Support team member communicates and escalates the request to the appropriate Delasoft Business Development representative.
- **Analysis:** Once a software issue is reported, the Customer Support team member will try and replicate, and/or analyze, research, and diagnose the cause of the issue. If required, the customer may be asked to provide additional information, screenshots, or files to demonstrate the issue. Once the issue is resolved, and before closing the incident, the customer is required to test the resolution. If the Customer Support team member is unable to resolve the issue, he/she will escalate the issue to the appropriate Delasoft resource for further action.
- **Escalation/Business Development:** When a product enhancement or service is requested due to Incident escalation, it is sent to our Business Development team. The Business Development representative will coordinate with Delasoft's Software Engineering team to prepare a cost estimate for the requested service. Once, approved by the customer, and Delasoft is in receipt of a purchase order, Delasoft will provide the requested enhancement or service.
- **Escalation/Software Engineering:** When a modification to the existing system is required or requested, it is escalated to our Software Engineering team. After an initial evaluation, the Software Engineering team will provide an estimated completion date. Our Quality Assurance staff evaluates each fix, patch, or workaround before it is sent to the Customer Support team for distribution. Once the Customer Support team receives the fix, patch, or workaround, it is delivered to the Customer.

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To ensure that Delasoft's Customer Support team does not receive multiple calls regarding the same issue, Delasoft prefers that WVDOT delegate no more than three individuals to handle escalation issues prior to contacting the Customer Support team with an issue. However, Delasoft's Customer Support will accept all calls from any WVDOT staff member if this is WVDOT's preferred way of doing business.

Once a solution is confirmed as satisfactorily resolving the issue, it is closed and no longer actively tracked by the Customer Support team. A closed incident can be reopened at any time if the issue needs to be readdressed.

Incident Severity, Response and Resolution

As incidents are reported to the Customer Support team, incident severity is assessed based on the criteria in Delasoft's standard Service Level Agreement (SLA). Reported incidents are triaged based on the impact the issue has on business operations and the severity of other issues reported. Accordingly, necessary resources are assembled to resolve the issue based on issue severity.

Support and Maintenance

Maintenance and Support Services: "Maintenance and Support Services" consist of the provision of Updates and Support Services.

New Updates: From time to time so long as Customer has a paid-up subscription, Delasoft may provide patches that address problems with the functionality of Software and may also provide decimal point new releases (e.g. Version 1.1) that add minor new functionality to Software (collectively, "Updates").

Support Services: Customer may designate up to three (3) Authorized WVDOT Users who may report to the Delasoft Help Desk any suspected failure of Software to perform according to the Documentation for initial diagnosis and resolution. Delasoft will provide "Support Services" (together with Professional Services, the "Services") remotely to determine if the problem is caused by a failure of Software to perform according to the Documentation, and if it is, to take reasonable efforts to provide a resolution or workaround for the failure. Support Services are provided during the hours, 7 a.m. to 6 p.m. Eastern Time.

Delasoft also has a support ticketing system support.delasoft.com (Based on Freshdesk, freshdesk.com) which is used to log all support request tickets and issues postproduction. This ticketing system has both internal (Delasoft) and external customer (WVDOT) portals (WVDOTsupport.delasoft.com) allowing WVDOT users to log support tickets at any time.

The system has many intuitive features that help keep track of support requests, SLA management and tracking, ticket status tracking and notifications, Parent-child and linked ticketing, email and phone integration, live chat, Self-help automatically suggests solutions, Knowledge base articles, FAQs, Discussion Forums, support feedback and rating etc. The system sends alert emails to our support staff whenever a ticket is opened, or SLA is about to be violated.

Delasoft also maintains a support phone linked to the support ticketing system allowing our support staff to take phone calls and log tickets directly from the phone. The support phone is manned

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during regular support hours, 7 a.m. to 6 p.m. Eastern Time, and WVDOT staff can call the support phone during these hours to receive telephonic support.

Delasoft will provide up to three (3) Authorized WVDOT Users an account in the Delasoft support ticketing system allowing WVDOT to log support tickets at any time. Support phone number will be provided before Go-Live and cut over to Maintenance.

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Delasoft's Standard SLAs for Support

Customer Impact	Description	Severity	Notification Updates	Estimated Resolution Time
1	CRITICAL (affects public safety/health) – Loss of this business function threatens the ability for the State to operate. Loss of business function disrupts the security and well-being of the State.	1 CRITICAL	Every 2 Hours until Resolution	8 Hours
2	SIGNIFICANT (revenue generating) – Loss of this business function significantly reduces the effectiveness of the State's operations. Loss of business function has a negative impact and affects the financial well-being of the State.	2 SIGNIFICANT	Every 4 Hours until Resolution	16 Hours
3	MODERATE – Loss of this business function affects multiple State agencies/school districts and their ability to operate. Loss of business function has a negative citizen impact	3 MODERATE	Every Day until Resolution	3 Days
4	LIMITED – Loss of this function is limited to only the person and/or department using the application. Loss of business function has little or no effect on the State's ability to carry on business	4 LIMITED	Every 2 Days until Resolution	5 Days
5	MINIMAL – Loss of this function does not have a direct impact on the department's ability to do business.	5 MINIMAL	Every 3 Business Days until Resolution	10 Days

4.3.10.2.4 Future Direction

The proposed solution has seen key enhancements over its lifetime, designed to expand capabilities, external compatibility, and software specifications. Future enhancements are expected to continue to offer government agencies additional functionality, including higher levels of customization, increased external user functionality, and no-code configuration.

Recent Significant Enhancements

Past enhancements have included expansion of administrator capabilities, reports, the help module, and third-party integration. Our team has also kept the software up to date with technological enhancements.

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Administrator Tools

To empower client users, our team identified key areas where administrators would benefit from increased freedom and capabilities. In the past few years, the modules used in the proposed vendor solution have been expanded to allow admin users to create and manage their own fields, forms, and business rules, allowing for greater control over applications and workflows.

Administrators can also create and manage letters and templates, set up conditional rules for notices, and create and manage custom notifications

Reports

The reporting module has been significantly expanded with the QueryBuilder tool. To facilitate data analysis, the reporting module now allows users to create their own reports, with custom fields and search parameters. These reports can be saved and shared, as well as exported to pdf and excel.

Help Module

The help module featured in the proposed solution has been expanded to allow custom, editable stories and articles. Administrators can create new topics, edit articles, and create content for users.

Third-Party Integration

Compatibility with third-party tools has been significantly enhanced. The proposed solution features modules that can integrate with external software solutions such as FileNet and Primavera Project Management.

Planned Improvements

Delasoft will continue to improve and enhance the modules featured in the solution. In serving the public-sector, we expect to evolve functionality for both internal and external users, with new features, on-going updates based on technological improvements, and enhancements to the overall platform.

No-Code Flexibility

In the next three years, our team will strengthen the administrator tools and business rules engine to allow users to build new modules within the system. The modules will leverage no-code principles to allow for alterations to system settings and business rules without altering the base code.

Snippet System

In addition to no-code configuration, our team is building a library of custom code snippets, to equip administrators and IT staff with the building blocks to customize and tailor solution architecture to their needs.

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Single Sign-On

To streamline security credentials and account management our team will integrate the solution with client domains, to allow for a single sign-on process. When the user signs on to the client domain, they will be automatically signed into their user account for the proposed solution.

3-Year Plan

Our development team and executive leadership are building towards a subscription-based solution. In this vein, new features are designed to increase customization and configurability, so that clients can make alterations out-of-the-box without the cost and delay of contracting the original development team.

Benefits to the Client

Delasoft's planned enhancements and longterm strategies for this solution emphasizes increased adaptability and functionality. The platform on which the proposed solution is built centers highly configurable, modular software as its foundation.

This approach maximizes utility and minimizes obsolescence for the client. Configurable software can be closely tailored to existing practices and offers a robust environment that can be easily adapted to changes in agency standards without requiring the time and expense of contracting the original developer to alter the base code. Scalable architecture and modular design account for growth and technological advancement, creating a pathway for improvements and expansions to the solution.

The platform has been strategically designed to facilitate on-going enhancement, improvement, and expansion of the software, to support client system longevity and maximize value for users.

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4.3.11 Tab 5 – References

Delaware Department of Transportation

Name of Firm: Delaware Department of Transportation	
Reference Contact Person: Barry Cowin	
Telephone: 302-760-2601	Email: Barry.cowin@delaware.gov
Alternate Reference Contact Person: Sanjay Kumar	
Telephone: 302-760-2648	Email: Sanjay.kumar@state.de.us
Project/Contract Title: Transportation System Data Management (TSDM)	
Project Description: TSDM is a solution to manage and control the life cycle of road inventory features and serve as a repository for geospatial data. The application allows users to validate, analyze, and view data on a map interface alongside other GIS data and custom attributes. TSDM has following key features: <ul style="list-style-type: none">• An interface for centralized geospatial data maintained by various DelDOT business groups.• UI to report Data issue/s.• Centralized linear referencing system services• Map-enabled road inventory data collection for line/point/polygon features.• External System Integration (Pavement Management System/Bridge Management/Workorder System/ADA/etc)• Powerful query builder for geospatial analysis• Dynamic GIS data creation for road features• Custom validation processes to sync with FHWA and HPMS.	
Project/Contract Value: \$1,469,132	Project Software and Release Number(s): TSDM REV 1
Project/Contract Date: 1/24/2017	Project Location: Dover, Delaware

Oregon Department of Transportation

Name of Firm: Oregon Department of Transportation	
Reference Contact Person: Tony Sutton	
Telephone: (503) 986-4212	Email: tony.b.sutton@odot.state.or.us
Project/Contract Title: Outdoor Advertising Control System (OACS)	
Project Description: Delasoft was contracted to develop a permitting solution to allow customers to fill out and submit applications and equip DOT staff with the tools to review, approve, and manage permits. OACS has a payment system, inspection tools, automatic notifications, and powerful record	

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management utilities to assist DOT employees in managing hundreds of billboards and roadside objects across the state.	
Project/Contract Value: \$393,000	Project Software and Release Number(s): OACS Rev Level 4
Project/Contract Date: 8/2018	Location: Dallas, Oregon

South Carolina Department of Transportation

Name of Firm: South Carolina Department of Transportation	
Reference Contact Person: Keith Melvin	
Telephone: 803-737-1342	Email: Melvinkc@scdot.org
Project/Contract Title: Outdoor Advertising Control System (OACS)	
Project Description: Delasoft was contracted to develop a permitting solution to allow customers to fill out and submit applications and equip DOT staff with the tools to review, approve, and manage permits. OACS has a payment system, inspection tools, automatic notifications, and powerful record management utilities to assist DOT employees in managing hundreds of billboards and roadside objects across the state.	
Project/Contract Value: \$248,000	Project Software and Release Number(s): OACS Rev Level 3
Project/Contract Date: 7/28/2015	Location: Columbia, South Carolina

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4.3.12 Tab 6 — Proposed Project Staff and Organization

4.3.12.1 Project Organization

The West Virginia Department of Transportation assumes the following responsibilities in support of this proposal:

- It is the responsibility of WVDOT to make available the personnel required to work with the assigned Employees as outlined in the Statement of Work. Depending on the type of work, this may involve a significant number of people. Delasoft cannot be held responsible for schedule delays or work stoppages caused by the inability of WVDOT to make the appropriate personnel available during this project.
 - The project manager will participate in project planning (high level) and the development of initial Project Management Plan (PMP). Signs off on major deliverables and signs-off on approvals to proceed to each succeeding project phase.
 - The Business Analyst will be the point of contact/clarification of requirements. Resource will provide concurrence of requirement as per expectation.
 - The end-users will engage in requirement discussions and user acceptance testing to ensure application functionality matches requirements.
- It is the responsibility of WVDOT to complete tasks and deliverables as defined in this document in a timely manner in support of the project schedule. Inability to do so may result in amendments and/or extensions to the estimated schedule provided in this document as well as the incurrence of additional of additional resources and/or funding to support such changes. In the event that amendments and/or changes are required they will be handled according to the Changes Order Process.
- Providing an adequate workspace if necessary for the Delasoft Professional Services representative is the responsibility of WVDOT. An adequate workspace generally includes a desk or table, chair, and telephone (including modem access).

4.3.12.2 Personnel Summary Table

Proposed Role(s)	Consultant Name	Experience Summary
Senior Project Manager	Don Burris	Mr. Burris has over 35 years of experience managing numerous transportation projects for state governments, including DelDOT, ADOT, NMDOT, NCDOT, SCDOT, VADOT, KYDOT, and ODOT. With 27 years of experience as an employee of DelDOT, he is highly familiar with state agency practice.
Senior Business Analyst	Steven Korzekwa	Mr. Korzekwa has 25+ years of software development/design experience with experience in GIS, Web, and Mobile. He

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		has worked on numerous state DOT projects dealing with Right-of-Way, Utility Relocation and Railroad Agreement systems for clients such as DeIDOT, GDOT, ODOT, and VADOT.
Sr. GIS Developer	Raghavendar Goud	Mr. Goud is an experienced and skilled senior-level developer with over 9 years of experience. Mr. Goud has prior experience with state government IT applications and GIS development for transportation, and has been involved with the development of 5 Right-of-Way, Utility Relocation and Railroad Agreement systems for DeIDOT.
Sr. ETL/Datawarehouse Developer	Ganesh Prabhakar	Mr. Prabhakar has 9+ years of experience in designing, developing, and implementing enterprise-class data warehousing solutions. He has been involved in 8 Right-of-Way, Utility Relocation and Railroad Agreement systems projects for clients such as ADOT, DeIDOT, KYDOT, ODOT, SCDOT, and WisDOT.
Sr. Software Developer	Deepa Devisetty	Ms. Devisetty has 6+ years of development experience. She has been involved in 5 Right-of-Way, Utility Relocation and Railroad Agreement systems for government agencies, including ADOT, DeIDOT, NMDOT, ODOT, and SCDOT.

4.3.12.3 Resumes

DON BURRIS – SR. PROJECT MANAGER
Mr. Burris will manage and monitor overall implementation, create and execute project work plans and revise as appropriate to meet changing needs and requirements. Mr. Burris will manage the day-to-day operational aspects of the project and its scope to ensure the project's success based on his knowledge and experience in the transportation domain.
Don has over 35 years of IT management experience in state government, 27 years of which he spent with the Delaware Department of Transportation, managing the development, implementation, support, and maintenance of transportation applications. He has provided strategic and technical direction in support of Geographic Information Systems, Civil Engineering Systems, Asset Management Systems, and Telecommunications Systems for Intelligent Traffic Management Systems. He has extensive experience giving formal presentations in a business and conference setting. He has successfully implemented and managed mission-critical software projects and upgrades on time and within budget, adhering to state/federal mandates and requirements. He has experience establishing annual fiscal budgets, writing technical reports, negotiating contracts, and managing contracts for IT services and contractual resources.
Specializations

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- Project Management (Agile and Structured)
- ESRI GIS Technologies
- Enterprise GIS Planning
- Intergraph GeoMedia GIS Mapping and Analysis
- Structured, Object Oriented, and Agile system development methodologies

Recent Relevant Project Experience

SENIOR PROJECT MANAGER, DELASOFT, INC

March 2013 - Present

- Provides strong functional knowledge of GIS software, including ESRI technologies like ArcGIS Online, ArcGIS Server and Arc Maps (Desktop).
- Manage and monitor the overall implementation of GIS integration projects.
- Creates and executes project work plans and revise plans to meet changing priorities and requirements.
- Maintain project scope, project budget, schedule, resource allocation and track completion of deliverables.
- Manage day-to-day operational aspects of the project and manage scope of GIS/Web applications.
- Review deliverables prepared by the team before passing to the client.
- Minimize exposure and risk on projects by eliminating problems before they are unmanageable or affect the outcome or duration of the project.

DELAWARE DEPARTMENT OF TRANSPORTATION

August 2001 – March 2013

Dover, DE

- Provided technical direction and decision making in support of Geographic Information Systems, Civil Engineering, Asset Management, and Telecommunications for intelligent traffic management systems.
- Was responsible for the development and/or application of in-house training and workshops for business community.
- Successfully implemented software projects and managed upgrades on time and within budget adhering to state/federal mandates and requirements.
- Established schedules and operational priorities to ensure the section's short- and long-term goals and objectives were met.
- Prepared, administered, and monitored the section's budget to ensure proper funding levels and justifiable expenditures.
- Prepared weekly and monthly reports reflecting the section's accomplishments, challenges, and resolutions.
- Conducted meetings with staff and users to discuss works-in-progress and to anticipate problems or needs.
- Performed recruitment, interviewing, performance appraisals and other personnel activities relating to merit employees and contractual staff.

Education

BACHELOR OF ARTS IN BUSINESS MANAGEMENT (1998)

Wilmington University – New Castle, DE

ASSOCIATE OF APPLIED SCIENCE IN COMPUTER INFORMATION SYSTEMS (1994)

Delaware Technical & Community College – Dover, DE

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STEVE KORZEKWA – PRIMARY BUSINESS ANALYST

Mr. Korzekwa has served as lead architect for numerous projects. He holds expert knowledge in the use of GIS development APIs, SDKs, and Web and Mobile Development, including ESRI ArcGIS .Net/Javascript APIs, and Google Maps API. He has strong, functional knowledge of GIS software, including ESRI technologies like ArcGIS Online, ArcGIS Server and Arc Maps (Desktop).

Specializations

- Over 15 years of experience with Linear Referencing Systems for DOTs, rail, and utilities.
- Experience architecting large, enterprise GIS implementations.
- Experience architecting and implementing web and desktop solutions and products.
- Extensive experience with the complete line of ESRI GIS products including desktop and server products.
- Hands-on experience with ESRI development APIs, including javascript, Flex, Silverlight, ArcObjects and Python.
- Familiarity with open-source GIS solutions.
- Hands-on development experience with javascript (including frameworks such as nodejs, dojo, jQuery and AngularJS), .Net (C# and VB), Java, Python, Flash, and Android,
- Business development (technical and proposal writing, oral presentations).

Recent Relevant Project Experience

KORZEKWA CONSULTING, INC. **2015 - Present**
 Founded and built a spatial IT consulting business focused on providing personal service to a small number of clients.

TRANSCEND SPATIAL SOLUTIONS **2011 - 2015**
 Co-founded and built a successful spatial IT consulting business focusing on the transportation industry. Led the technical aspects of the company including hiring and management of technical staff, providing in-depth consulting to clients in all sectors, technical architecture for the company and clients, and hands-on software development and spatial analysis.

DIRECTOR OF TECHNOLOGY, GEODECISIONS **2004 – 2010**
 Camp Hill, PA
 Led the technical direction of the company regarding consulting services, product development and technical staff management. Hands-on software development and management of a staff of developers creating products and providing consulting services.

SR. CONSULTANT, BOOZ ALLEN HAMILTON **2003 – 2004**
 Lexington Park, MD
 Provided on-site GIS and software development support at a Naval base in Dahlgren, VA. Held secret clearance.

GIS DEVELOPER, SPECTRA MARKETING **1999 – 2003**
 Lancaster, PA
 Provided GIS software development for the Spectra line of market analysis products.

GIS ANALYST/DEVELOPER, CARTER & BURGESS **1995 - 1999**
 Fort Worth, TX
 Provided GIS consulting and spatial analysis for a variety of clients including local municipalities and departments of transportation.

MHI GOVERNMENTAL SYSTEMS **1993 – 1993**
 Indianapolis, IN
 Provided spatial software development for a variety of county government solutions.

INDIANA UNIVERSITY PURDUE UNIVERSITY AT INDIANAPOLIS **1991 - 1993**
 Indianapolis, IN
 Managed the Laboratory for Advanced Spatial Information Research at the university. Provided support to University staff, training courses and consulting for external agencies.

CARTOGRAPHER, HOUSTON METRO **1990 – 1991**
 Houston, TX
 Implemented a rudimentary GIS to assist in planning and support, using Atlas GIS.

Education

BACHELOR OF ARTS IN GEOGRAPHY, 1995
 University of North Texas – Denton, TX
 Degree in geography, with an emphasis in Geographic Information Systems (GIS)

GRADUATE COURSEWORK IN GEOGRAPHY, 1995
 University of North Texas – Denton, TX

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RAGHAVENDAR GOUD — SENIOR GIS DEVELOPER

Mr. Goud has 8+ years of development experience. He has experience with all levels of the software development life cycle, including design, testing, debugging, and maintenance of applications. He has strong GIS development skills and a functional knowledge of google maps API/ArcGis API. He holds a strong, functional knowledge of a wide range of software development tools and languages, including Silverlight Telerik Controls, Open Ria Services, Entity Framework 6.0, LINQ Expressions, J2EE, C#, Eclipse, VS Studio, UI Kit, and Core Foundation with Cocoa Touch, among others. He has a functional knowledge of Web UI development tools, such as Dojo 1.5/1.6, jquery, AJAX, JSON, XML, HTML, JavaScript, and CSS. He has experience using the Databases MySQL, Oracle 10g/11g, and SQL server 2012, and Log4j and JUnit for unit testing.

Specializations

- Building and Customizing API's
- Web and Mobile development
- Product Improvement and Development
- Automated & Unit testing

Recent Relevant Project Experience

Roadside Control System [RCS]: Delaware Department of Transportation (DeIDOT)

RCS was built to aid the management of outdoor advertisements, junkyards and other roadside violations by Departments of Transportation. It enables DOTs to regulate and review outdoor advertising and junkyards visible from public roadways to enforce outdoor advertising regulations under the State Advertising Act and Federal Highway Beautification Act. The purpose of the system is to track all permits, invoices and payments of the annual fees, inspections and violations. The System is spatially enabled (Geographical Information System Enabled) to help in permit location and analysis using a map. It also includes a Mobile Handheld solution to support the DOT crews managing inspections and identifying and tagging violations on-site.

Roadside Control System Mobile App [RCS Mobile App]: Delaware Department of Transportation (DeIDOT)

RCS has both a mobile app and a non-mobile app component. RCS features comprehensive mapping, invoicing, tracking and reporting capabilities to enable Departments of Transportation to review and regulate outdoor advertising and junkyards in accordance with the State Advertising Act and Federal Highway Beautification Act.

Highway Performance Monitoring System [HPMS]: Delaware Department of Transportation (DeIDOT)

HPMS is a national-level highway information system that includes data on the extent, condition, performance, use, and operating characteristics of the nation's highways. HPMS contains administrative and extent of system information on all public roads, while information on other characteristics is represented in HPMS as a mix of universe and sample data for arterial and collector functional systems. Limited information on travel and paved miles is included in summary form for the lowest functional systems.

Utility Permit Application [UPA]: Delaware Department of Transportation (DeIDOT)

UPA provides a customizable online solution for the submission, review, approval, tracking, and inspection of utility permit requests. The system offers optimized workflows for the utility permitting process, provides proactive reporting capabilities, and leverages GIS technology to provide informative mapping and analysis capabilities. Our workflow management platform is customizable, supporting various approval procedures, notifications protocols, and user roles. Using this portal, Utility Companies can submit requests for permits and attach key documentation, such as construction plans, photographs, and insurance documents.

Road Video Launcher [RVL]: Delaware Department of Transportation (DeIDOT)

Road Video Launcher is a web-based reporting system that allows users to request and filter reports and records. RVL displays a front and rear view of the road at 1–5 frames/sec. RVL can be used to support road maintenance, condition comparison over time, encroachment data, and other crucial transportation operations. RVL also offers excel and PDF imports, detailed reporting, role assignment, and custom permissions.

Roles & Responsibilities:

- Conducted requirement analysis, wireframe development, and module design.
- Designed, analyzed, and implemented business logic.
- Analyzed and optimized product performance and product code and completed bug-fixing and enhancements.
- Performed front- and back-end development and security analysis.
- Supported code optimization and SQL optimization.
- Designed & developed user interface and built UI components using aspx.net, Telerik, html, css, javascript as a custom controls to maximize code reusability.
- Built Rich Silverlight web applications with Silverlight, Telerik Controls, and Entity Framework 6.0.
- Built web applications with ASP.NET MVC, JavaScript, jQuery, JSON, HTML, XHTML, CSS.
- Built restful API's, from scratch, for mobile apps. API's type: GET, POST, PUT, DELETE. Used latest web services/API data standards.
- Conducted schema design and SQL development.

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- Provided technical and maintenance support.
- Conducted database migration, converting the Oracle 10g database to SQL Server 2012 using SSMA.
- Developed cross-platform hybrid mobile apps, using JQuery, Angular JS Modules, Controllers, Views and JQuery Plugins. Used Phonegap, Angular JS and Ionic framework.
- Developed various features, including JQuery Animations, Slides, Dialog, Modal Pop-Ups, Controls, Slide-Out Menu, Slide-Over, Carousel, Action Items, and Infinite Scroll. Built various native features using PhoneGap such as a GPS Locator and Image Capture (Custom Zoom-in/Zoom-out Controls). Implemented the Cordova Child Browser.
- Involved in designing the database and writing the Stored Procedures, Functions, and Packages in both Oracle and the SQL Server.
- Integrated service layer with backed code using LINQ expressions.
- Created and maintained database objects, including tables, triggers, functions, procedures, views, and packages for new requirements.
- Conducted Devart ADO.net Entity Framework mapping and exposed Open RIA service for execution of data operation.

Education

BACHELOR OF SCIENCE IN COMPUTER SCIENCE INFORMATION TECHNOLOGY, 2009

Sphoorthy Engineering College Hyderabad – Nadargul, India

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GANESH PRABHAKAR — Sr. ETL/DATAWAREHOUSE DEVELOPER

Mr. Prabhakar is a developer and project manager with over 9 years of experience in software development. He has a strong functional knowledge of ETL Development, data management enterprise systems, and GIS-enabled solutions. He has experience using the SSIS platform to extract, transform, and load data and to administer and maintain the ETL environment in a support role with Systems Administrators, including performing configuration management activities related to the ETL environment. His work with Delasoft, Inc. includes solution development, quality assurance and testing, and management of DOT-specific projects, including permitting, right of way management, and road inventory systems.

Specializations

- ETL Development and Maintenance
- Data integrity maintenance
- Quality Assurance and Testing
- Managing Team Performance and progress
- SQL Server, Oracle, File Systems,
- ETL, SSIS, SSRS,
- Datawarehouse,
- ISTQB Certified

Recent Relevant Project Experience

Mr. Prabhakar has participated in the development of DOT software solutions, including data management and permitting platforms. Delasoft has developed systems for Outdoor Advertising, Junkyard, and Roadside Violation control; entrance permitting; and utilities permitting and construction. The solutions support the regular review of roadways to enforce outdoor advertising regulation under the State Advertising Act and Federal Highway Beautification Act and maintain encroachments inventory for right of way usage. The systems track all permits, invoices and payments for annual fees, inspections, and violation fines. The systems are GIS-enabled to help in permit location and analysis using a map. Delasoft has also developed a mobile, handheld solution to aid the DOT crews in managing inspections and identifying and tagging violations on-site.

- *DelDOT - Roadside Control System (Delaware)*
- *DelDOT - Entrance Permit System (Delaware)*
- *DelDOT - Utility Permit System (Delaware)*
- *SCDOT Outdoor Control System (South Carolina)*
- *WisDOT Outdoor Control System (Wisconsin)*
- *ODOT Outdoor Control System (Oregon)*
- *KYTC Outdoor, Recyclers and Encroachments Control System (Kentucky)*
- *ADOT Outdoor Control System (Arizona)*

Roles and Responsibilities

- Full stack ETL development using .NET, SSIS, SQL Server, File system, Oracle
- Plan, coordinate, develop and support ETL processes including architecting table structure, building ETL process, documentation, and long-term preparedness.
 - Develop cross validation rules to ensure mapping accuracy.
 - Meet all defined requirements of the project.
 - Provide production support of existing ETL processes.
 - Document steps needed to migrate database objects between various environments including Development, UAT, Staging, and Production.
 - Document ETL process thoroughly to allow peers to assist with support as needed.

Education

BACHELOR OF ENGINEERING, 2011

MJV College of Engineering — Bangalore, Karnataka, India

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DEEPA DEVISETTY — SENIOR SOFTWARE DEVELOPER
Ms. Devisetty has over 6 years of success planning, monitoring various software products. She is experienced in managing all aspects of the software development life cycle, from initial capture of requirements through development, testing, delivery and enhancement. She is skilled in building, training and mentoring high performing teams in consistently delivering strategic software projects.
Specializations
<ul style="list-style-type: none">• Visual Basic, C,• Oracle and SQL Training• Full-stack development using .NET• Front-end UI development using CSS with W3C standards, Javascript, JQuery, and Ajax• Back-end logic, including database procedures and jobs• Application implementation
Recent Relevant Project Experience
<p><i>Entrance Permit System (DelDOT) - Delasoft</i> has developed an application to aid the management of entrance permits. This application is used by various Department of Transportations to regulate the permitting and construction of driveways/entrances connecting residential areas and commercial area to public roadways. The purpose of this system is to track all entrance permits from application to entrance construction completion and permit issuance. The System is spatially enabled (Geographical Information System Enabled) to help in permit location and analysis using a map. The system also integrates with project management systems such as primavera for project/work conflict resolution.</p> <p><i>Outdoor Advertising Control System (ODOT) – Oregon</i> implemented Delasoft’s OACS system for maintaining Outdoor Advertisements, Relocation Credits, Business Licenses and Violations. The purpose of the system is to track all permits, invoices and payments of the annual fees, inspections and violations. Outdoor Advertising, Relocation Credits and Business Licenses life cycle includes request of a new Outdoor Advertising, Approval, Issuing Permit, Fees Recovery and Inspection of Outdoor Advertising. System is designed to fulfill any Federal reporting requirements.</p> <p><i>Outdoor Advertising Control System (NMDOT) – New Mexico</i> Department of transportation implemented Delasoft’s OACS system as an internal only system for recording and maintenance of Outdoor Advertising and Junkyard permits. As part of the implementation Delasoft completed a full inventory of New Mexico’s outdoor advertising signs.</p>
Roles and Responsibilities
<ul style="list-style-type: none">• Product development and Maintenance• Build Manager• Managing Team Performance and progress• Maintaining quality standards by being quick to address any quality-related issues• Implemented Software Change Requests for different states• Involved in completed development of various modules• Prepared User Stories for requirements• Deployed application at client-side
Education
MASTER OF ARTS IN ECONOMICS Visual Basic, C, Oracle and SQL Training SSI Computer Institute—Hyderabad, India Software Engineering Training Apollo, India

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4.3.13 Tab 7 – Vendor’s Proposed Plan for Providing Requested Service

4.3.13.1 Timeline and Implementation Phasing Approach

Delasoft proposes a 10-month duration to implement the project, once Notice to Proceed is given. Delasoft’s team will complete the project based on Delasoft Implementation Methodology outlined in this response. The goal is to have a smooth transition to Delasoft’s system and benefit the ROW sections.

Delasoft will provide a qualified Project Manager (PM) with prior experience with projects of comparable size and scope and experience to act as the single point of contact between WVDOT and Delasoft. The proposed PM for the project is an employee of Delasoft and will have authority to represent Delasoft in all matters related to the project.

Phasing of Project Activities

The project schedule includes milestones that provide intermediate points to assess the readiness to move to the next phase. We continually monitor progress along each step, as defined in the project schedule, between the intermediate milestones. As we enter each phase of the project, we review the risks assigned to that phase to provide additional focus on the specific risk and build the initial mitigation plans. Time has been allocated in the schedule to perform comprehensive testing to provide an additional space for these key project activities.

Our scheduling approach is based on our extensive experience derived from similar implementation efforts successfully completed and currently in use in other states. The project schedule approach presented is based upon input from our team members, who have experience in delivering similar activities.

Our staffing plan enables us to move staff easily from a task that is completing to one that is starting. The staffing plan is use to plan, schedule, and address unanticipated delays so that we use our team resources efficiently and apply attention to the most critical areas as needed.

We have analyzed the project schedule and, in particular, the perceived schedule risks as part of our schedule development process. As we identified perceived schedule risks, those technical and management team members responsible for the successful completion of project activities where the perceived schedule risks were identified provided recovery measures in the schedule to ensure that we will complete all project activities in accordance with the project schedule.

Below is an estimated Project schedule that can be used for informational purposes. It is estimated that solution will be Go-Live not later than September 2022.

Task Name	Duration	Start	Finish
Project Initiation	8 days	Mon 11/1/21	Wed 11/10/21
Project Kick-Off	1 day	Mon 11/1/21	Mon 11/1/21

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Project Objectives	1.6 hrs.	Mon 11/1/21	Mon 11/1/21
Project Scope	1.6 hrs.	Mon 11/1/21	Mon 11/1/21
Team Roles and Responsibilities	1.6 hrs.	Mon 11/1/21	Mon 11/1/21
Project Approach	1.6 hrs.	Mon 11/1/21	Mon 11/1/21
Project Timeline	1.6 hrs.	Mon 11/1/21	Mon 11/1/21
Project Level Initial Documentation	3.5 days	Tue 11/2/21	Fri 11/5/21
Final Project Plan Creation (Project management plan, Test Plan, Verification matrix etc.)	8 hrs.	Tue 11/2/21	Tue 11/2/21
Final System Network Design Document Generation	8 hrs.	Wed 11/3/21	Wed 11/3/21
Final Project Sprint Plan / Initial Product Backlog / Initial RTM Generation	8 hrs.	Thu 11/4/21	Thu 11/4/21
Project Plan Review and Approval	2 hrs.	Fri 11/5/21	Fri 11/5/21
System Network Design Review and Approval	2 hrs.	Fri 11/5/21	Fri 11/5/21
Project Sprint Plan Review and Approval	2 hrs.	Fri 11/5/21	Fri 11/5/21
Infrastructure Setup	8 days	Mon 11/1/21	Wed 11/10/21
Development/Test workstations acquisition and Access Provisioning	8 hrs.	Mon 11/1/21	Mon 11/1/21
Development and Test Server Environment acquisition and Access Provisioning	8 hrs.	Tue 11/2/21	Tue 11/2/21
Production Environment acquisition and Access Provisioning	8 hrs.	Wed 11/3/21	Wed 11/3/21
Development/Test configuration setup	16 hrs.	Wed 11/3/21	Thu 11/4/21

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Base Project Setup	16 hrs.	Fri 11/5/21	Mon 11/8/21
Release configuration setup	16 hrs.	Tue 11/9/21	Wed 11/10/21
Base ROW System Foundation and Database Design	30 days	Thu 11/11/21	Wed 12/22/21
Sprint 1	15 days	Thu 11/11/21	Wed 12/1/21
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Dictionary, DOD Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 11/11/21	Fri 11/12/21
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 11/15/21	Wed 12/1/21
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 11/15/21	Wed 12/1/21
Sprint 2	15 days	Thu 12/2/21	Wed 12/22/21
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 12/2/21	Fri 12/3/21
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 12/6/21	Wed 12/22/21
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 12/6/21	Wed 12/22/21
Milestone 1 - Base ROW System Foundation and Database Design	0 days	Wed 12/22/21	Wed 12/22/21
ROW System Module Configuration and Integration	197 days	Thu 12/23/21	Fri 9/23/22
Sprint 3	15 days	Thu 12/23/21	Wed 1/12/22

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Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 12/23/21	Fri 12/24/21
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 12/27/21	Wed 1/12/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 12/27/21	Wed 1/12/22
Sprint 4	15 days	Thu 1/13/22	Wed 2/2/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 1/13/22	Fri 1/14/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 1/17/22	Wed 2/2/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 1/17/22	Wed 2/2/22
Milestone - ROW System Sprint 3,4 delivered	0 days	Wed 2/2/22	Wed 2/2/22
Sprint 5	15 days	Thu 2/3/22	Wed 2/23/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 2/3/22	Fri 2/4/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 2/7/22	Wed 2/23/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 2/7/22	Wed 2/23/22
Sprint 6	15 days	Thu 2/24/22	Wed 3/16/22

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Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 2/24/22	Fri 2/25/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 2/28/22	Wed 3/16/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 2/28/22	Wed 3/16/22
Milestone - ROW System Sprint 5,6 delivered	0 days	Wed 3/16/22	Wed 3/16/22
Sprint 7	15 days	Thu 3/17/22	Wed 4/6/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 3/17/22	Fri 3/18/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 3/21/22	Wed 4/6/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 3/21/22	Wed 4/6/22
Sprint 8	15 days	Thu 4/7/22	Wed 4/27/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 4/7/22	Fri 4/8/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 4/11/22	Wed 4/27/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 4/11/22	Wed 4/27/22
Milestone - ROW System Sprint 7,8 delivered	0 days	Wed 4/27/22	Wed 4/27/22

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Sprint 9	15 days	Thu 4/28/22	Wed 5/18/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 4/28/22	Fri 4/29/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 5/2/22	Wed 5/18/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 5/2/22	Wed 5/18/22
Sprint 10	15 days	Thu 5/19/22	Wed 6/8/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 5/19/22	Fri 5/20/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 5/23/22	Wed 6/8/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 5/23/22	Wed 6/8/22
Milestone - ROW System Sprint 9,10 delivered	0 days	Wed 6/8/22	Wed 6/8/22
Sprint 11	15 days	Thu 6/9/22	Wed 6/29/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 6/9/22	Fri 6/10/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 6/13/22	Wed 6/29/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 6/13/22	Wed 6/29/22

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Sprint 12	15 days	Thu 6/30/22	Wed 7/20/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 6/30/22	Fri 7/1/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 7/4/22	Wed 7/20/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 7/4/22	Wed 7/20/22
Milestone - ROW System Sprint 11,12 delivered	0 days	Wed 7/20/22	Wed 7/20/22
Sprint 13	15 days	Thu 7/21/22	Wed 8/10/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 7/21/22	Fri 7/22/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 7/25/22	Wed 8/10/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 7/25/22	Wed 8/10/22
Sprint 14	15 days	Thu 8/11/22	Wed 8/31/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 8/11/22	Fri 8/12/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 8/15/22	Wed 8/31/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 8/15/22	Wed 8/31/22

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Milestone - ROW System Sprint 13,14 delivered	0 days	Wed 8/31/22	Wed 8/31/22
Sprint 15 - Final Integration and Issue Resolution	15 days	Thu 9/1/22	Wed 9/21/22
Backlog/Demo; Requirements/JAD Session; Functional Requirements specifications, Architectural Design specifications, Data Model, Data Add/Update, RTM Update, Acceptance Testing for Previous Sprint and Go ahead for current sprint	16 hrs.	Thu 9/1/22	Fri 9/2/22
Sprint Development (Software assembly and configuration)	104 hrs.	Mon 9/5/22	Wed 9/21/22
Non-Functional Testing / System & Integration Testing / Documentation (Test Scripts, RTM)	104 hrs.	Mon 9/5/22	Wed 9/21/22
Deployment And Closeout	2 days	Thu 9/22/22	Fri 9/23/22
VPS Solution Deployment	8 hrs.	Thu 9/22/22	Thu 9/22/22
Training and closeout	8 hrs.	Fri 9/23/22	Fri 9/23/22
Milestone - New ROW System in Production	0 days	Fri 9/23/22	Fri 9/23/22

Data Migration Services

Data conversion will include data migration for respective databases identified during requirements gathering. Delasoft's methodology is based upon lessons learned over the many years of performing data migrations from legacy systems. Our proposed process for data mapping is a multi-step process, and each data source will go through the same process. We propose a typical data conversion life cycle which begins with the analysis of the legacy systems to identify systems and data relevant to the project. The identified legacy data is extracted from the source systems and undergo analysis for data consistency, correctness, and missing or invalid data. Our team will make recommendations on areas where data cleansing is needed. When WVDOT and Delasoft jointly complete data cleansing, the next step is to mask the private and sensitive data. When masking activities are complete, the data is mapped and Map tables (and Views). Delasoft then performs data integrity checks and validations at this point to confirm constraints are met.

Step 1 – Analyze and Design: During this step, the Delasoft team identifies legacy data sources, what data is required and map the data elements. We also identify the verification points to be used.

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Step 2 – Extract: As part of the Delasoft conversion process, WVDOT staff provide extracts (or the actual data) of the legacy system data based on a mutually agreed structure, format and drop location. We will have a Migration database prepared to load the cleansed extracts. For each extract, WVDOT staff provide Record Counts for each transaction and entity to use for verification in the conversion process at a later step. The record counts are important to establishing a baseline for datasets to be migrated.

Step 3 - Cleanse and Consolidate: Data cleansing is a two-fold process, involving the actual validation of data for correctness and the merging of duplicate data. Cleanup steps identified in the Analysis phase will be executed against the legacy data. When cleanup is complete, any required consolidation steps (data transformations) will be performed against the legacy data in Migration database in preparation for loading the data into the mapped tables. The first part of our proposed data cleansing process is to rely on WVDOT staff to review data in the legacy systems considered for data migration. WVDOT staff knows the systems and the data in those systems and can make an initial effort to correct data issues. This effort is typically related to data issues that cannot be fixed programmatically, such as data in incorrect fields, inconsistent data in fields, missing data, and corrupted data. This is an opportunity to make some quick wins in preparation for data migration. The second part of our proposed data cleansing process is to work with WVDOT staff to identify data that can be cleansed automatically during data migration. During data analysis, we work together to identify data elements from legacy systems and the rules for cleansing that data. Included in the second part of the proposed data cleansing process is to create data scripts to assist in the automation of the data cleansing process. The data migration process for the application involves multiple steps, including the load of data from legacy data sources to Conversion Database.

Step 4 – Migrate: During the data migration step of the conversion, Delasoft team configures the extract, transform, load (ETL) programs, and load the data into the database. The development of the ETL programs involves mapping data elements in the staging tables to the base tables. Once this configuration is completed, the data can be migrated into the database. In addition to verifying that the data is loaded correctly into the solution, our team collects the data conversion duration times. These specifics help in estimating the duration of the final data conversion.

Step 5 – Validate: During the Data Reconciliation phase, Delasoft develops a set of queries to produce the record counts for each table and then document these record counts in the data conversion validation spreadsheet. Delasoft also compares the record counts collected in this stage of the data conversion to the counts collected during analysis, extraction, consolidation, and migration.

4.3.13.2 System Development Methodology Overview

System Development Methodology

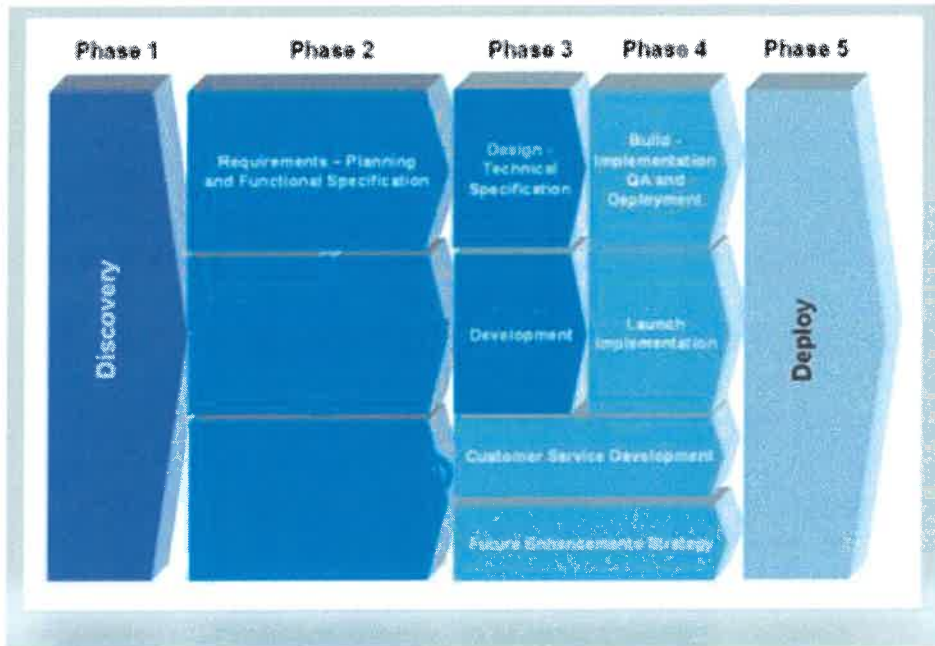
Project implementation will be a collaborative effort between WVDOT and the Delasoft team. Our methodology has a proven track record, and with today's methodology changes and approaches using a hybrid-waterfall approach, we continue to deliver successfully on our strong proven methodology.

Delasoft utilizes a phased approach to implementing solutions for our clients. There are well-defined milestones and deliverables for each phase. Delasoft believes in working closely with our

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clients throughout the engagement. The approach for WVDOT will be based on a methodology used and proven in previous engagements.



Phase 1 - Discovery

During the Discovery phase, Delasoft reviews existing WVDOT documentation, interviews staff, and conducts workshops, and meetings, to understand and document the vision of the solution. Delasoft will obtain a more in-depth understanding of WVDOT processes and business rules and give WVDOT an understanding of the methodology and Platform capabilities.

Deliverables:

- GAP Analysis and Configuration - Configuration updates to meet WVDOT requirements.
- Document the "To-Be Analysis - This document outlines the To-Be state of each ROW processes.
- Prototypes - Used to demonstrate selected aspects of the Delasoft existing modules and features to assist in understanding how it can be leveraged for WVDOT

Phase 2 – Base Solution

Based on the detailed requirements agreed to in the Analysis Phase, Delasoft will configure the Useable modules/functions to establish the Base Solution of the VPS prior to beginning Phase 4, Build. Delasoft will also identify any specific hardware, sample data and test instances for systems with which the solution will need to integrate.

Deliverables:

- System Requirements Specifications Document – Create a detailed document of all technical aspects of what has been built to meet business rules and processes.

Phase 3 - Build

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During the Build Phase, we will develop the VPS based on the design specifications. This will include the database as per the data model developed during the Design Phase. Although Phases 2 and 3 overlap, configuration tasks continue until the Build Phase is completed.

In this phase, the developed components are tested individually and then integrated. The integrated system is completely tested for functional compliance with the requirements.

As part of this phase, we identify the relevant milestones such as unit testing, integration testing, and delivery for QA and testing by the agency's IT team. The project plan will identify junctures for controlled release(s) of the solution modules for QA and testing, to ensure effective testing, review, feedback and fixes, each step designed to ensure that the final deliverable meets the project requirements.

Deliverables:

- Data Conversion Specifications and Development – Conversion and Migration of all legacy data.
- Interface Specifications and Development - Identification and development of all interfaces.
- Administrative and Technical Training -Training for WVDOT staff that focuses on the administration of the VPS.
- Report Specifications and Development - Identification and development of all reports.

Phase 4 – Pre-Deployment

During this phase, the VPS is tested, users are trained, and Delasoft's team prepares for system deployment. User acceptance testing plans are developed, approved, and executed during this

phase. When completed, WVDOT must confirm all system requirements have successfully been met prior to moving to Production and system live status.

Deliverables:

- User Acceptance Testing - A User Acceptance Plan (UAP) will be developed and is used as a guideline in User Acceptance Testing (UAT). Final approval of this deliverable confirms that Delasoft has successfully met the requirements of the VPS and ready to be deployed.
- End User Training – Delasoft will utilize the "Train-the-Trainer" approach which not only accomplishes clients to train for the deployment but also enables them to educate new users throughout the lifecycle of the system

Phase 5 - Deploy

The final phase of the project is marked by transitioning the VPS to the production environment. A review of the Statement of Work ensures that all system requirements have been met. Once deployed, WVDOT may begin to use the system in their day-to-day activities. Upon completion of Phase 6, all support functions are transitioned to Delasoft's Customer Support.

Deliverables:

- Pre-Production Checklist Development - A document detailing all go-live required activities, timelines, and execution.

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- Move to Production - The VPS is fully transitioned to the production environment and ready for daily use.
- Postproduction Analysis - A review of all activities detailed in the Production Checklist and confirmation of project completion.
- Formal Transition to Customer Support for Ongoing Support - The project is transitioned to Customer Support for ongoing support.

4.3.13.3 Project Management Methodology and Approach

Project Management Plans (PMP)

Delasoft will following the project management methodology consistent with the West Virginia Office of Technology (WVOT) Project Management Methodology.

Upon contract award, Delasoft will work with WVDOT to develop, review and finalize a detailed project management plan scaled to the project schedule as defined in the RFP. The PMP will incorporate best practices of the Project Management Institute (PMI) and include lessons learned from prior similar implementations to ensure the highest productivity, quality, efficiency and accuracy in development, testing, acceptance, documentation, training and deployment of VPS. The PMP will be a living document and will be updated by both Delasoft and WVDOT as necessary to ensure successful completion of the project. As outline in the RFP, the PMP will include the following documents: Risk Management Plan, Issue Management Plan, Communication Plan, Change Management Plan, Monitoring and Control Plan, Quality Management Plan, Installation Plan, Testing Plan, Training and Knowledge Transfer Plan, and Post Implementation Plan.

Risk Management Plan

Understanding that risks if they occur, could have a negative effect on a project's objectives, Delasoft will manage risks identifying, assessing, responding to, monitoring and controlling, and reporting risks.

Delasoft understands that with any project there are possible challenges that can take place during the execution of the project and the project manager is responsible for managing the corrective measures necessary if and when it happens.

An official project Risk Log will be maintained in the project Repository by the WVDOT and Delasoft Project Manager. As the Project Team identifies risks and includes them on the periodic Status Reports, new risks will be added to the Risk Log.

Once a list of risks has been created, an analysis of their likelihood of occurrence and the consequences is done, and a plan is developed to deal with that risk. It will be necessary to monitor the VPS Project closely to identify if a predicted risk situation is occurring.

Risk Management Strategy

Risks will be tracked and monitored throughout the entire project life-cycle. Risks may come in the form of specification ambiguity, technical uncertainty, technical obsolescence, or new technology. Technical risks often occur because a problem is harder to visualize or solve than we originally thought. This risk can be attributed to several factors such as the size and complexity of the project,

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resource issues, new software versions, client acceptance and management, subcontractor reliability, or problematic source materials.

Risks come and go throughout the project life-cycle. Each risk identified will be tracked with a contingency plan or course of action and updated on a regular basis in the monthly status report.

Project Risk Identification

An Excel spreadsheet will be used as the tool to track, list, and categorize project risks. Risk Identification is the process of identifying potential risks and commenting the specific characteristics of each.

Project Risk Mitigation Approach

All identified risks will have appropriate mitigation strategies/plans. For those risks that are highly probable and have significant impact to the project will develop contingency plans.

Risk Reporting and Escalation Strategy

Risk monitoring and control will be part of every project status meeting. Risk identification will be the responsibility of all members of the project team. The WVDOT Project Manager and Delasoft Project Manager will be responsible for tracking risks and for developing mitigation strategies and contingency plans that address the risks identified by the team.

This project will follow a continuous risk management strategy. Risk will be assessed routinely to ensure that identified risks are being dealt with appropriately and that new risks are identified and dealt with as early as possible.

Project Risk Tracking Approach

Risk	Level	Mitigation	Comment
Insufficient funding	Low	Prioritize each agency's funding request and develop contingency plans to allocate funds	Insufficient funding allocation means that either some agencies requesting funds will receive \$0 or agencies will not have enough to purchase software, hardware and implementation services.
Agency Resource availability	High	Ensure stakeholders are involved and support the project team members	Lack of resources to complete project activities can lead to delays in project schedule.
Extended timeline caused by state approval process	High	Plan for	State requirements for oversight as well as the procurement process provide numerous opportunities for project delays.

Issue Management

Delasoft will work with the WVDOT Project Team to address and provide a resolution to all issues that may occur during the project. As with any project, regardless of any comprehensive issue planning process, issues may arise.

Technical issues related to the project will be managed and monitored using FreshDesk helpdesk software. When project level issues are identified by the project team, it will be added to the Risk & Issues Log. An issue can also be identified by anyone affiliated with the project although the project team will be primarily responsible for tracking issues through resolution. The project team will review the issues list weekly, as part of the weekly status meeting. Issues, which could negatively affect the project, will be brought to the project manager’s attention according to the change control process. The process of tracking an issue is outlined here:

Issue Management

Step	Action
1	An issue is identified.
2	It is added to the issue document, assigned an issue number with a brief explanation of the issue and date entered.
3	An impact severity is assigned to the issue.
4	The issue is assigned to someone and potential action to be taken.
5	As action is taken, it is noted with the issue.
6	If possible, an estimated completion date is entered.

Upon completion of an issue, the actual completion date is noted with the resolution.

Listed below are examples of how an issue can be resolved:

- An issue can become a task added to the project plan with proper approval, if new, or within scope of the project.
- It could be resolved by an action taken.
- A document can be created which addresses the issue.
- A resolution could create new issues that need to be addressed.
- A new policy could be created which addresses the issue.

The project team is primarily responsible to resolve issues or follow-up to be sure action is being taken to resolve an issue.

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Below is the SLA chart and escalation path for Issues. It is to be noted that this SLA chart is for pre-production development work only. Post-production maintenance SLAs will be provided at a later date with the maintenance contract.

SLA Management

Issue SLA			
Issue Impact	Notification Frequency	Estimated Max Resolution Time	Escalation Path
Critical	Every 4 Hours Until Resolution	1 Day	Escalated Immediately to Vendor/Customer Senior Management And Stake Holders. All team members notified every day.
High	Every 1 Day Until Resolution	1 Week	Immediately to Vendor/Customer Project Managers. Senior Management / Stake holders notified every week until resolution.
Medium	Every 1 Week Until Resolution	4 Weeks	Vendor/Customer Project Managers notified every week till resolution. Not escalated to Senior Management / Stake holders
Low	Once Until Resolution	None. Mutually agreed upon	None. Mutually agreed upon

Status Reporting

Each week, a project status report will be issued to identify all activities that have been accomplished in the previous week, any action items currently pending, and key actions which can improve the projects path.

Scope Management Plan

The scope of the project will be the responsibility of the Project Manager to ensure that all deliverables are being completed. The Project Manager and Project Sponsor will meet weekly to discuss project scope and determine if any changes will be necessary and require an amendment to the contract. Any change to the approved project scope will follow change control process describe below. This will also address managing stakeholder expectations.

Change Management Plan

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Delasoft and WVDOT Project Managers will assume responsibility for change management of this project. All project change requests submitted must go through the approved Project Change Management process for impact analysis and formal approval to apply the change before any action is taken to implement change.

Any requests for change must be submitted by the Delasoft Project Manager to WVDOT and WVDOT IT Project Managers using the Delasoft Project Change Request Form. Upon receiving a Change Request, the Delasoft Project Manager will log the request in the Project Change Control Log and perform an assessment. The assessment will include impact to scope, time and budget. The Delasoft Project Manager will then forward a copy of the request to the WVDOT and WVDOT IT Project Managers. The Change Request will be forwarded to the Project Core Team. The WVDOT and WVDOT IT Project Managers may perform an independent assessment of the Change Request.

The Change Request will be presented to the Project Core Team and Executive Steering Committee for approval. If there is a long delay in the assessment or approval process, the change may be posted as an issue and proceed through the Issue Management escalation process.

Once a change request is approved, the project schedule and/or budget will be recalculated per the change and the change decision posted in the Project Change Control Log.

Communication Management Plan

The Delasoft Project Manager will coordinate and centralize communications with WVDOT IT Project Manager, ensuring timely and accurate information is provided. The Delasoft Project Manager will coordinate responses with the appropriate WVDOT Project Team members and respond verbally or by e-mail. In the event, a communication issue cannot be resolved, the issue will be escalated utilizing the Issue Management process. Using the communication channels described in the Project Communication List, the goal is for the Project Team to keep communication open and informal with answers provided as quickly as possible.

To expedite the exchange of information, the Project Team members will provide correspondence such as meeting minutes in hardcopy and electronic formats as requested. The WVDOT Project Manager will be responsible for submitting documentation for distribution and recording information in the project repository site.

Communication Stakeholders and Information Identification List

The Project Communication List is as shown in the table below

Frequency	Communication Channels	Purpose
Monthly	Executive Steering Committee Meetings	Communicate project status against project schedule and effort level. Identify key project issues and risks and review project status.
Weekly	Project Status Reports	Tool used to keep the team on target with priorities and estimates. The Delasoft Project Manager consolidates the Project Team

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		member's statuses into the weekly Project Status Report.
Weekly	Project Team Status Meeting (Including all members of the Project Management Team).	Provide clear communication between WVDOT, Delasoft and key stakeholders.
Weekly	Project Meeting Results	Delasoft Project Manager captures the key decisions made during the discussions.
As Needed	Project Team Meeting: <ul style="list-style-type: none"> • WVDOT Sponsor • WVDOT Stakeholders • WVDOT IT Project Manager • WVDOT Business Owner Project Manager • WVDOT Subject Matter Experts • WVDOT IT Staff • Delasoft Project Manager • Delasoft IT Staff 	Meeting provides the Project Team with the overall view of the risks, issues, and status of the project during its lifecycle.
As needed	WVDOT Communications avenues to Delasoft via e-mail or correspondence.	Provides written notifications to vendor.

Project Distribution Groups List

Distribution Group Name	Distribution Group Description	Owner
Delasoft Project Team	The Delasoft Team members.	Delasoft Project Manager
WVDOT Project Stakeholders	The WVDOT stakeholders with interest in the project.	WVDOT Project Manager
WVDOT Project Management Team	WVDOT Business Owner, WVDOT IT PMO and Delasoft PM, team members.	WVDOT Project Manager
WVDOT Project Team	The WVDOT Project Management Team, WVDOT IT and Subject Matter	WVDOT Project Manager

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	Experts assigned to the project.	
WVDOT End Users	The WVDOT end users who will be using the software solution.	WVDOT Project Manager

Status Meetings

Project status meetings (calls) will be held on a weekly basis.

Project Status Reports

The project status reports will be delivered to the Project Manager on a monthly basis.

Product Deliverable Acceptance Process

The WVDOT Information Technology (IT) Manager will take delivery of media; manuals; contracts; licenses; services agreements; configuration settings; status of patches to COTS products; in-house or vendor developed code; test cases, routines, and scripts; and other items required for the project. The WVDOT IT Manager will take delivery of such products only after the product deliverables have been accepted by the WVDOT Project Executive Steering Committee.

Configuration Management

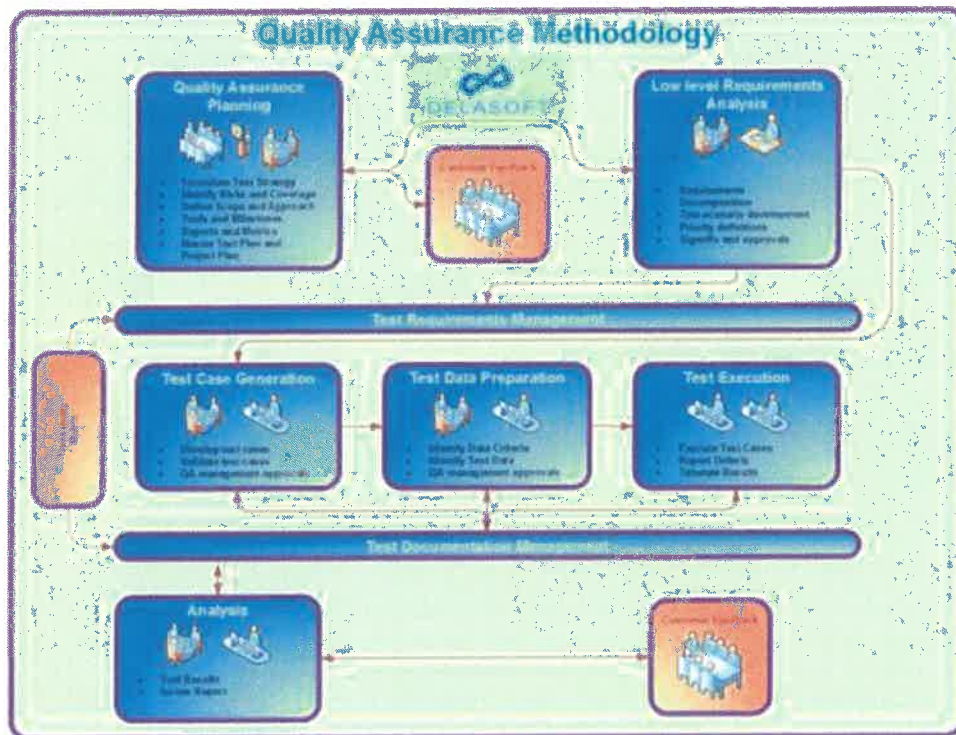
Configuration Management determines how project information (files, reports, designs, memos, documents, etc.) will be managed (tracked, approved, stored, secured, accessed, version control, etc.) and owned by (e.g., Agency managing the project or the Customer). Standards and team awareness are critical.

Project Repository (Project Library)

A project repository, consisting of a shared server with multiple folders will be developed by WVDOT staff members as a means to provide a central repository for all project documentation and deliverables.

Quality Management Plan

Quality Management Approach



Quality Assurance Methodology

Delasoft understands the objective and purpose for managing quality is to validate that the project deliverables are completed with an acceptable level of quality. It is the intent of Delasoft to measure quality and ensure adherence to standards regarding processes and deliverables produced during the implementation of the VPS project.

Delasoft' QA standards measure quality in project management practices with periodic audits to ensure adherence to these standards. Delasoft will measure the Delasoft Project team's adherence to the standards set out in this Project Management Plan document. Any deviations/issues noted and corrective actions will be brought to the attention of WVDOT through the risk/issue logs.

The QA process seeks to ensure that all deliverables are developed using accepted industry standards and practices. To accomplish this objective, the following Delasoft quality assurance tasks will be performed:

- Review all deliverables during development and following draft completion.
- Review all significant internal working documents.
- Participate in all functional and detail design discussions to ensure new and changed functions will first, meet the published requirements of WVDOT, and secondly, be supportive of the ultimate users, the VPS users.
- Attend and participate in all project team status meetings to determine client acceptance and understanding of the project direction and accomplishments.
- Review all system functions to determine that all proposed processes are technically feasible and will not place undue burdens on the users.
- Ensure the project is progressing within the defined scope.
- Review project plans and schedules to determine potential delays and risks.

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Quality control is a shared responsibility but is ultimately the responsibility of the Delasoft Project Manager. All Delasoft project staff are responsible for ensuring all tasks are performed with the highest degree of professionalism and quality.

Quality Objectives and Standards Identification

QA related objectives, work products and deliverables will include:

- Means and methods for controlling and implementing changes to deliverables
- Process and product standards, and how compliance is monitored and ensured
- Types of reviews and audits that will occur at specific milestones
- Test strategy
- Means and methods used to trace deliverables back to requirements to ensure that no requirements are missed
- Criteria by which deliverables are determined to be ready for delivery
- Method for determining what documentation is required and for ensuring its development
- Use of other tools, techniques, and methods to ensure the quality of the product

Project Reviews and Assessments

The following types of QA reviews will be conducted with the VPS project by Delasoft. Additional QA reviews may be performed by an independent QA contractor hired by WVDOT.

QA Reviews

Review Type	Frequency	Tools	Reviewer	Reports
Peer Reviews	Per deliverable	Checklists and deliverable acceptance criteria	Delasoft team members	Edited / commented deliverable
Testing	System and Acceptance Test Cycles	Test scripts and cases. Test Plans. Automated test scripts	Delasoft team members	Test Results
Internal Audits	Closeout tasks	Project documentation and communication review	WVDOT PM Team, Delasoft PM	Lessons Learned, Phase Closeout Reports

Installation Plan

The Implementation Plan will be provided after completion of Phase 1 of the project. The plan will describe how the VPS system will be deployed, installed and transitioned into an operational

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system. The plan will contain an overview of the system, a brief description of the major tasks involved in the implementation, the overall resources needed to support the implementation effort (such as hardware, software, facilities, materials, and personnel), and any site-specific implementation requirements.

The outline shows the structure of the Implementation Plan.

- Description of Implementation
- Major Tasks
- Implementation Schedule
- Security
- System Security Features
- Security During Implementation
- Site Requirements
- Site implementation Details
- Data Conversion
- Back-Off Plan
- Post-Implementation Verification

Testing Plan

Delasoft will develop a system test plan for testing the modifications of the software against the software requirements as defined and documented during the Discovery Workshop sessions. The purpose of system tests is to make sure that the software modifications comply with the definition of the software requirements. The planning of these tests will be done internally by Delasoft first, followed by WVDOT's Team during the UAT phase.

Training and Knowledge Transfer

All training shall be provided in the WVDOT facility. This training may be divided into sessions to accommodate WVDOT training facility size. There will be a separate administrator training session.

Delasoft will provide customized training materials to meet the business need of the agencies and customers using the permit system. Delasoft will provide WVDOT with required copies of user guides and functional materials to support all staff utilizing the system. WVDOT will be granted rights to allow the State to make as many copies of the materials as required.

Delasoft will ensure by the end of the course, WVDOT users will understand how to use the system, and will have a comprehensive understanding of how the system will impact operations within WVDOT.

External Customer Training

Delasoft will provide or arrange training for external users on how to use the VPS.

Training Methodology

Delasoft will provide on-site training to WVDOT in a classroom environment suitable for training. WVDOT will be responsible for providing and preparing the training facility.

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Delasoftware recommends a “train-the-trainer” approach for end-user training, whereby Delasoftware assists with assembling the training materials and conducts the first sessions. WVDOT personnel, usually Core Project Team members, designated trainers and key-users conduct the subsequent sessions. This approach ensures that WVDOT has the expertise necessary for ongoing training and internal support after the implementation is complete. In addition to the core project team and designated trainers, Delasoftware recommends WVDOT identify at least one key-user at each district to attend the training. These individuals will be responsible for closely support the cutover by answering initial end user questions, and, most importantly, implementing subsequent changes or alterations to the documented procedures at their location.

The training methodology will encompass the following groups:

- WVDOT internal system administrators
- WVDOT internal users
- WVDOT Help Desk Services including routing of Help Desk tickets using Freshdesk.

Training Services

Delasoftware will provide the following training services:

- Provide comprehensive, detailed and formal hands-on training including student training
- Provide course materials, class duration, instructors’ qualifications, experience and knowledge of the subject matter for all functional, technical and operational aspects of VPS.
- Provide one physical copy of the individual training manual and presentation.
- Upon each training session, Delasoftware will provide an attendance sign-in sheet and feedback evaluations for training attendees to complete (course and instructors for each class).
- Provide a training plan that include a curriculum and schedule for training and all activities necessary for successful knowledge transfer.
- Work with WVDOT to provision dates and times for training and offer training classes according to the business needs of WVDOT during normal business hours.

Post Implementation Plan

Delasoftware will provide to WVDOT a description of all deliverables provided during the post implementation assessment as outlined in the approved PMP.

Documentation

Delasoftware will provide to WVDOT functional and user documentation. At least one electronic and one hard copy of each type of documentation using MS Word 2003 or higher will be provided. Delasoftware will provide WVDOT written approval to authorize additional copies of the documentation for internal use only.

Post Implementation Assessment

At the close of the project, Delasoftware will conduct a comprehensive post-implementation assessment for the VPS.

A written assessment will be included with the following:

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- Post Implementation Review
- Continued timely notification to WVDOT of identified vulnerabilities and security advisories that may impact the confidentiality, integrity or availability of the data and system(s)
- Lessons Learned
- Best Practices

Because Delasoft’s Base Platform is built upon a very flexible architecture, the systems are able to easily accommodate future VPS enhancement opportunities. Our Base Platform is very easily configurable. Out of the box generalized settings allow end-user to quickly configure various business rule settings in the system. Delasoft will work with WVDOT when the need arises to configure the system for any specific requirement not already provided by the existing system.

Project Governance

Delasoft will work with WVDOT to successfully manage the implementation of the VPS project to ensure that the project is being correctly executed in accordance with best project management practice and within WVDOT’s governance processes.

Delasoft recommends the following organizational boundaries, interfaces and responsibilities.

List of organizational boundaries, interfaces and responsibilities.

Role	Responsibility
Executive Sponsor/ Steering Committee	The point person will be the highest level of WVDOT. Responsibilities include: <ul style="list-style-type: none">• Champion Project• Consider changes facing the organization and its impacts• Responsible for finding budget to complete project• Participate in planning sessions• Ultimate project responsibility
Business Owner	<ul style="list-style-type: none">• Tasked with overall direction and support of the project• Participate in meetings• Review and accept deliverables• Review and provide comment on documentation provided by project team.• Review project funding and its sources
Project Manager(s)	Person responsible to the participating entities that make decisions related to the operation of the project. <ul style="list-style-type: none">• Problem Solving• Reviews work of Consultants• Scheduling of meetings• Participate in changes to project

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	<ul style="list-style-type: none"> ● Diagnose potential problems on project ● Determine roles of IT personnel ● Ultimate project success ● Budget Planning ● Project Schedule ● Training Plans ● Contract Management ● Ensure communications between vendor and project owner.
<p>Project Team Members</p>	<p>Staff assigned to Project</p> <ul style="list-style-type: none"> ● Contract Support ● Document Support ● Define Business needs ● System Administration ● Testing ● Data integrity ● Data input
<p>Technical Staff</p>	<p>Staff assigned to defining infrastructure requirements and providing support to project indefinitely.</p> <p>Duties Include:</p> <ul style="list-style-type: none"> ● System infrastructure Specifications ● Integration of other WVDOT systems ● Data backups ● Storage requirements ● Security ● Data Migration ● Systems install and updates ● Network connectivity ● Provide test/development environments ● System maintenance ● System reporting ● Database tools (reporting) ● Disaster recovery ● Anti-virus protection

Executive Reporting

The Project Manager will be responsible for creating periodic internal reports for WVDOT stakeholders and will assist in preparing materials for presentation. The Project Manager will work in conjunction with the Technical Lead and the vendor to gather data for these reports.

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4.3.13.4 Detailed Description of Services/Deliverables to be Provided

The Vendor should describe in detail how each of the services listed in Section 4.2.2. shall be provided in accordance with the Vendor's methodology.

Services/Deliverables	Description
Project management	Upon contract award, Delasoft will work with WVDOT to develop, review and finalize a detailed project management plan scaled to the project schedule as defined in the RFP. The PMP will incorporate best practices of the Project Management Institute (PMI) and include lessons learned from prior similar implementations to ensure the highest productivity, quality, efficiency and accuracy in development, testing, acceptance, documentation, training and system deployment. The PMP will be a living document and will be updated by both Delasoft and WVDOT as necessary to ensure successful completion of the project.
Requirement's confirmation and development	Using WVDOT's documented business requirements, Delasoft will include the requirements in a comprehensive Software Requirement Specifications (SRS) document, identifying WVDOT's business processes. Delasoft will obtain and review this document before a final meeting with both WVDOT and Delasoft following the Project Kick-Off Meeting to discuss any questions and document outstanding configuration/customization (requirements not demonstrated during the 2-day on-site demo) needed to meet WVDOT's requirements to ensure full functionality and capabilities of the implemented Vendor Provided System. It is assumed that either the documented SRS or the subsequent review and discussion will have detailed information on the various other downstream applications that the Vendor Provided System will be interfaced with prior to configuration/customization.
Development of a Concept of Operations for managing business processes using the VPS and the interaction of these processes with other systems.	During this step Delasoft will perform a detailed review of the requirements. During this phase Delasoft may contact WVDOT SME's to clarify requirements if necessary and prepare a detailed Software Requirements Specification (SRS) document. Delasoft will also prepare the final Project Management Plan (PMP). Both SRS and PMP will be submitted to WVDOT for approval and sign-off. Sign-off of the SRS and PMP indicates the acceptance and freezing of the requirements for the customization and configuration of Delasoft's product for WVDOT.
Technical architecture and infrastructure design	Technical Diagram (See Tab 9, Section 4.3.15 Figure 31) Infrastructure Diagram (See Tab 4, Section 4.3.10.2 Figure 2)
System analysis and business process design	During the discovery and planning phase, Delasoft will collaborate with WVDOT to review the overall business processes that are to be incorporated into the VPS. During this phase Delasoft will gather detailed requirements, evaluate the requirements and also work with WVDOT on the acceptance

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	<p>testing criteria. The discovery and planning phase is broadly divided into eight (8) steps or milestones.</p> <p>The sessions will include a kick-off meeting and detailed joint application design (JAD) sessions. Delasoft and WVDOT together will identify any risks or concerns. Delasoft will later consider those risks and formulate a plan to reduce or mitigate those risks. The discovery session will also define the scope and approach to each requirement as it is discussed. Any reporting and metrics will also be discussed. Data migration will also be discussed. Delasoft will take with them information regarding the schema of existing data, sample data, a detailed understanding of the requirements and structure of legacy system data to be migrated. Any data cleansing immediately identified will also be brought to the attention of WVDOT.</p>
<p>Software configuration management and tracking</p>	<p>Delasoft internally uses Microsoft Visual Studio Online (VSO) for Application Lifecycle Management (ALM). It is one of the most versatile and capable ALM tools on the market and fully supports the Agile process and bug tracking and traceability back to user stories. A stakeholder access to Delasoft’s VSO portal can be provided to WVDOT.</p>
<p>Customizations (including forms, custom reports, automated interfaces, software enhancements and modifications, and custom workflows);</p>	<p>After the planning phase, the project will move to phase 2 (Customization and Testing). During this phase, Delasoft will review, design and customize or configure all changes to the VPS as agreed upon in the requirements document. This phase is divided into five (5) steps or milestones.</p> <p>Delasoft’s Development team will perform the necessary customization and configuration changes to the products. The data migration team will prepare WVDOT’s data for migration and migrate the data to the new system.</p>
<p>Security configuration</p>	<p>Single Sign On is the ability of a software system to authenticate the user with a single username and password used across multiple systems without the need for a separate username and password for each system. In the case of the State this username and password is the State ID and password used to logon to the State assigned workstation. The VPS will have the ability to automatically log the user in using the credentials used to logon to the State network.</p> <p>External users not logging in from the state domain will be authenticated with a unique user ID and password. Delasoft’s Multi-Authentication Module can detect whether the user is internal or external by first detecting if the user has logged into their workstation using a state ID and password and then comparing the user ID with the users set up in the system. If no internal user match is found the user will be presented with a login prompt asking them to enter their user ID and password. Users designated as administrators of the system will be able to access the administration section of the system and add new</p>

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	<p>users to the system. Delasoft’s reusable Administration Module used in various Delasoft applications allows administrators to add both internal and external users to the system.</p> <p>Administrators of the system will have the ability to modify user credentials and access through role-based security. Delasoft’s reusable Administration Module used in various Delasoft applications. One or more roles are assigned to users giving them the required permissions to use the system. Separately a user can also be given the administrator role to give them access to the system administration. Note that external users cannot be system administrators.</p> <p>Administrators of the system will have the ability to create groups in the system and assign users to groups. Delasoft’s reusable Administration Module used in various Delasoft applications allows administrators to define groups in the system and assign users to groups. Groups have access to one or more modules in the system such as Acquisitions, Property Management etc. A user can be assigned to multiple groups.</p>
Data conversion	<p>Data conversion will include data migration for respective databases identified during requirements gathering. Delasoft’s methodology is based upon lessons learned over the many years of performing data migrations from legacy systems.</p> <p>Our proposed process for data mapping is a multi-step process, and each data source will go through the same process. We proposed a typical data conversion life cycle which begins with the analysis of the legacy systems to identify systems and data relevant to the project. The identified legacy data is extracted from the source systems and undergo analysis for data consistency, correctness, and missing or invalid data. Our team will make recommendations on areas where data cleansing is needed. When WVDOT completes data cleansing, the next step is to mask the private and sensitive data. When masking activities are complete, the data is mapped and Map tables (and Views). Delasoft then performs data integrity checks and validations at this point to confirm constraints are met. Delasoft will following these 5 steps during data migration:</p> <p>Step 1 – Analyze and Design Step 2 - Extract Step 3 - Cleanse and Consolidate Step 4 - Migrate Step 5 - Validate</p>
Testing	<p>Delasoft’s QA team will test the new system as a whole, will perform system, integration and regression testing to ensure application is designed and developed as per the approved requirements.</p> <p>After successful completion of testing phase, code will be deployed in UAT (User Acceptance Test) environment. Delasoft</p>

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	<p>will assist Right of Way users during UAT testing. Testing phase will be considered as complete after receiving sign off on acceptance criteria from Right of Way users (UAT users)</p> <p>Delasoftware will create detail test scripts (Integration, System & Regression) based on approved requirements. Delasoftware will perform requirement traceability to ensure test coverage. Test scripts will be shared with Right of Way team for review and feedback.</p> <p>Delasoftware will create Use Case/Scenario base test cases to ensure entry and exit criteria defined in approved requirements are fulfilled. Will send business test cases to Right of Way team (SME or UAT lead) for review.</p>
<p>Training</p>	<p>Delasoftware will provide on-site training to WVDOT onsite in a classroom environment suitable for training. WVDOT will be responsible for providing and preparing the training facility. Delasoftware recommends a “train-the-trainer” approach for end-user training, whereby Delasoftware assists with assembling the training materials and conducts the first sessions which will run for a period of five business days at minimum. This will address the need for any additional training needed due to new employee onboarding or other circumstances during the lifecycle of the project. WVDOT personnel, usually Core Project Team members, designated trainers and key-users conduct the subsequent sessions. This approach ensures that WVDOT has the expertise necessary for ongoing training and internal support after the implementation is complete. In addition to the core project team and designated trainers, Delasoftware recommends WVDOT identify at least one key-user for each user group to attend the training. These individuals will be responsible for closely support the cutover by answering initial end user questions, and, most importantly, implementing subsequent changes or alterations to the documented procedures at their location.</p>
<p>Documentation</p>	<p>Delasoftware will provide to WVDOT functional and user documentation. At least one electronic and one hard copy of each type of documentation using MS Word 2003 or higher will be provided. Delasoftware will provide WVDOT written approval to authorize additional copies of the documentation for internal use only.</p>
<p>Knowledge transfer</p>	<p>Provide a training plan that include a curriculum and schedule for training and all activities necessary for successful knowledge transfer.</p>
<p>Communications and change management</p>	<p>The Delasoftware Project Manager will coordinate and centralize communications with WVDOT IT Project Manager, ensuring timely and accurate information is provided. The Delasoftware Project Manager will coordinate responses with the appropriate WVDOT Project Team members and respond verbally or by e-mail. In the event, a communication issue cannot be resolved, the issue will be escalated utilizing the Issue Management process. Using the</p>

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	<p>communication channels described in the Project Communication List, the goal is for the Project Team to keep communication open and informal with answers provided as quickly as possible.</p> <p>To expedite the exchange of information, the Project Team members will provided correspondence such as meeting minutes in hardcopy and electronic formats as requested. The WVDOT Project Manager will be responsible for submitting documentation for distribution and recording information in the project repository site</p>
Deployment I Cutover plan and checklist(s)	<p>During this step, Delasoft will review deployment strategy and create a Deployment Plan Document (DPD). This document will include the overall deployment strategy, description of the deployment steps and software hosting location instances and sizes. It will also contain any steps that WVDOT has to take during the deployment process.</p>
Deployment (roll-out) support	<p>During this step, Delasoft will turn on the production instance and turn it over to WVDOT for general production use. This marks the last major milestone for the project and marks the cut-over to support and maintenance (See section on support and maintenance)</p>
Infrastructure and implementation support	<p>Because Delasoft’s Base Platform is built upon a very flexible architecture, the systems are able to easily accommodate future VPS enhancement opportunities. Our Base Platform is very easily configurable. Out of the box generalized settings allow end-user to quickly configure various business rule settings in the system. Delasoft will work with WVDOT when the need arises to configure the system for any specific requirement not already provided by the existing system.</p>
Production software and infrastructure maintenance and support, including one major software upgrade	<p>Maintenance and Support Services: “Maintenance and Support Services” consist of the provision of Updates and Support Services.</p> <p>New Updates: From time to time so long as Customer has a paid up subscription, Delasoft may provide patches that address problems with the functionality of Software and may also provide decimal point new releases (e.g. Version 1.1) that add minor new functionality to Software (collectively, “Updates”).</p>

4.3.13.5 System Support Services

Support, Maintenance and SLAs

Maintenance and Support Services: “Maintenance and Support Services” consist of the provision of Updates and Support Services.

New Updates: From time to time so long as Customer has a paid up subscription, Delasoft may provide patches that address problems with the functionality of Software and may also provide

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decimal point new releases (e.g. Version 1.1) that add minor new functionality to Software (collectively, “Updates”).

Help Desk Support Services: Customer may designate up to three (3) Authorized WVDOT Users who may report to the Delasoft Help Desk any suspected failure of Software to perform according to the Documentation for initial diagnosis and resolution. Delasoft will provide “Support Services” (together with Professional Services, the “Services”) remotely to determine if the problem is caused by a failure of Software to perform according to the Documentation, and if it is, to take reasonable efforts to provide a resolution or workaround for the failure. Support Services are provided during the hours, 8 a.m. to 8 p.m. Eastern Time.

WVDOT will be provided access to Delasoft’s online customer support software (Freshdesk) to log support tickets for tracking and management. Reports can be generated from the data logged in the system for review and analysis.

Delasoft’s standard SLAs for support is as follows:

SLAs for support

Delasoft’s standard SLAs for support is as follows:

Customer Impact	Description	Severity	Notification Updates	Estimated Resolution Time
1	CRITICAL (affects public safety/health) – Loss of this business function threatens the ability for the State to operate. Loss of business function disrupts the security and well-being of the State.	1 CRITICAL	Every 2 Hours until Resolution	8 Hours
2	SIGNIFICANT (revenue generating) – Loss of this business function significantly reduces the effectiveness of the State’s operations. Loss of business function has a negative impact and affects the financial well-being of the State.	2 SIGNIFICANT	Every 4 Hours until Resolution	16 Hours

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3	MODERATE – Loss of this business function affects multiple State agencies/school districts and their ability to operate. Loss of business function has a negative citizen impact	3 MODERATE	Every Day until Resolution	3 Days
4	LIMITED – Loss of this function is limited to only the person and/or department using the application. Loss of business function has little or no effect on the State’s ability to carry on business	4 LIMITED	Every 2 Days until Resolution	5 Days
5	MINIMAL – Loss of this function does not have a direct impact on the department’s ability to do business.	5 MINIMAL	Every 3 Business Days until Resolution	10 Days

Delasoft's Customer Support, located in New Castle, Delaware corporate office, provides technical support between 8:00 AM and 5:00 PM PST, Monday through Friday, excluding state-observed holidays. The Customer Support team responds to all client issues and routes technical incidents accordingly based on the nature of the incident.

Support and Maintenance

Standard Uptime: Delasoft is proposing an on-site hosting model. As such the standard uptime of the solution will assume the standard uptime of WVDOT’s IT infrastructure. Any downtime for maintenance related to changes or upgrades will be scheduled in advance with the approval of both ROW staff and WVDOT IT.

Maintenance and Support Services: “Maintenance and Support Services” consist of the provision of Updates and Support Services. From time to time so long as Customer has a paid-up subscription, Delasoft may provide patches that address problems with the functionality of Software and may also provide decimal point new releases (e.g. Version 1.1) that add minor new functionality to Software (collectively, “Updates”). Customer may designate up to three (3) Authorized WVDOT Users who may report to the Delasoft Help Desk any suspected failure of Software to perform according to the documentation for initial diagnosis and resolution. Delasoft will provide “Support Services” (together with Professional Services, the “Services”) remotely to determine if the problem is caused by a failure of Software, and if it is, to take reasonable efforts to provide a resolution or workaround for the failure.

Delasoft also has a support ticketing system support.delasoft.com (**Based on Freshdesk, freshdesk.com**) which is used to log all support request tickets and issues post production. This

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ticketing system has both internal (Delasoft) and external customer (WVDOT) portals allowing WVDOT users to log support tickets at any time.

4.3.13.6 Lessons Learned

For more than 19 years, Delasoft has partnered with its clients to help solve their business and technology problems. Our success is based on our ability to apply business technology consulting expertise within our clients' industries.

In our experience implementing like projects, the following are lessons learned reasons for project delay or worse (problems or risks) has little to do with the actual software itself. Here are the most common issues encountered:

Risk/Problem	Suggested Mitigation Strategy
Clear business requirements	Ensure requirements are properly understood by the contractor and your technical stakeholders and can be clearly mapped back to test cases.
Managing scope creep	Having strong project managers on the client side and contractor side that can manage a single deliverable becoming plural deliverables or an agreed upon number of essential features changing to the agreed upon number of essential features to many as the project move along the project cycle.
Strong Agency project manager	Having a strong agency project manager is crucial to the project. Being able to communicate clearly and effectively when managing any project or team is a skill that is absolutely essential. The project manager must balance
Lack of clearly defined User Acceptance Testing goals and deadlines.	Client and vendor must create and agree upon a realistic timeline for UAT. Client PM must drive UAT team (Business users) to perform thorough testing using real world scenarios before sign-off.
Lack of an Agency Subject Matter Expert	The Division Subject Matter Expert (SME) should be available to review business organization and functions along with the organization, functions and data of existing information systems relevant to this project. available for weekly meetings
Not planning for change and delineating a specific method of handling each out-of-scope incidents	A change process must be clearly defined in a comprehensive PMP (Project management plan) developed jointly by the state and the vendor and agreed to by both parties. The PMP should detail the communication chain and activities that must be perform when a change to the scope is identified.

Delasoft has provided government solutions and worked on various government projects and installed various web and GIS products at state DOT's.

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4.3.14 Tab 8 — Project Goals and Objectives

WVDOT Goals & Objectives	Delasoft Response
<p>4.2.1.1. Vendor's proposal shall provide an architectural design based on the capacity and storage requirements listing in this RFP. The proposal shall include a description of the methodology that will be utilized to size, plan, and execute the implementation of a turnkey solution</p>	<p>Information found in Tab 8 titled "Architectural Diagram"</p>
<p>4.2.1.2. Vendor's proposal shall outline all software and hardware components required to meet the mandatory requirements. The proposal should identify any features/functionality that exceed the mandatory requirements. The proposal must contain technical documentation on each component in the proposed solution. This documentation will allow for a comprehensive evaluation.</p>	<p>Information found in Tab 4 titled "4.3.10.2 Technology Products"</p>
<p>4.2.1.3. Vendor shall describe the process for deploying the components outlined in the proposal and should address a recommended approach for the migration of existing data and services.</p>	<p>Information found in Tab 7 titled "4.3.13.1 Timeline and Implementation Phasing Approach"</p>
<p>4.2.1.4. Vendor shall describe the VPS technical support and maintenance needs along with their staff capability to support them and include a detailed plan for hardware/software support and knowledge transfer, installation, ongoing support, and training.</p>	<p>Information found in Tab 7 titled "4.3.13.5 System Support Services"</p>
<p>4.2.1.5. The proposed solution shall be compatible with the State of West Virginia software standards and security policies. The solution shall be compatible with Google Workspace products (the State is currently transitioning from Microsoft Office to Google Workspace) and State of West Virginia's acceptable use policy. These policies are located at: https://technoq.v.wv.gov/security/Pages/policies-issued-by-the-cto.aspx.</p>	<p>Delasoft has reviewed the State of West Virginia software standards and security policies and agree to adhere during the implementation of the VPS.</p>
<p>4.2.1.6. Vendor's proposed solution shall support WVDOT in achieving operational excellence in terms of the Right-of-Way acquisition processes as follows:</p>	<p>Delasoft agrees the proposed solution shall support WVDOT in achieving operational excellence based on the terms stated in section 4.2.1.6.</p>

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<ul style="list-style-type: none">• Provide the ability to support the management and tracking of the full lifecycle of the WVDOT right-of-way acquisition processes including project set-up, parcel identification and set-up, management of acquisition activities, appraisals, negotiation, condemnation, and relocation;• Provide the ability to support managing and tracking property management business processes; and• Provide the ability to support the management and tracking of consultant contract agreements and manage review/tracking of consultant invoices in support of right-of-way processes.	
<p>4.2.1.7. Vendor's proposed solution shall support WVDOT in achieving operational excellence in terms of the Utility Relocation business processes as follows:</p> <ul style="list-style-type: none">• Provide the ability to support the management and tracking of the full lifecycle of the WVDOT utility relocation processes including project setup, identification and documentation of utilities potentially impacted by the project and the nature of the impact, tracking required coordination with impacted utilities, creating relocation agreements with each utility required for the project, tracking the completion of the relocation work, and tracking and supporting payment of invoices for costs to be reimbursed by the WVDOT.	<p>Delasoft agrees the proposed solution shall support WVDOT in achieving operational excellence based on the terms stated in section 4.2.1.7.</p>
<p>4.2.1.8. Vendor's proposed solution shall support WVDOT in achieving operational excellence in terms of the Railroad Agreements as follows:</p> <ul style="list-style-type: none">• Provide the ability to support the management and tracking of the full lifecycle of required WVDOT railroad agreements requiring railroad coordination, including project set up, identification and documentation of railroad right-of-way impacted by the project, creating railroad agreements when required, and tracking and	<p>Delasoft agrees the proposed solution shall support WVDOT in achieving operational excellence based on the terms stated in section 4.2.1.8.</p>

supporting payment of invoices for costs to be reimbursed by the WVDOT.

4.3.15 Tab 9 – Capabilities of Proposed VPS Solution

Delasoft has created mature, responsive, and reliable platforms for enterprise spatial and data management solutions. These platforms will be leveraged to create an intuitive and expandable solution that will serve the WV DOT for years to come. The hallmark of a Delasoft solution is the ability to configure and modify the platform to meet current and future needs without expensive code level updates. Flexible data models, business rules, reports and notifications allow an administrative user to make extensive modifications to the platform to accommodate changing needs. The VPS solution will leverage several existing platform modules to create a flexible, responsive system. The diagram below shows the major components of the proposed solution. The existing modules are shown in the middle column of the diagram and module extension boxes indicate major extensions or enhancements to these modules which result in VPS components.

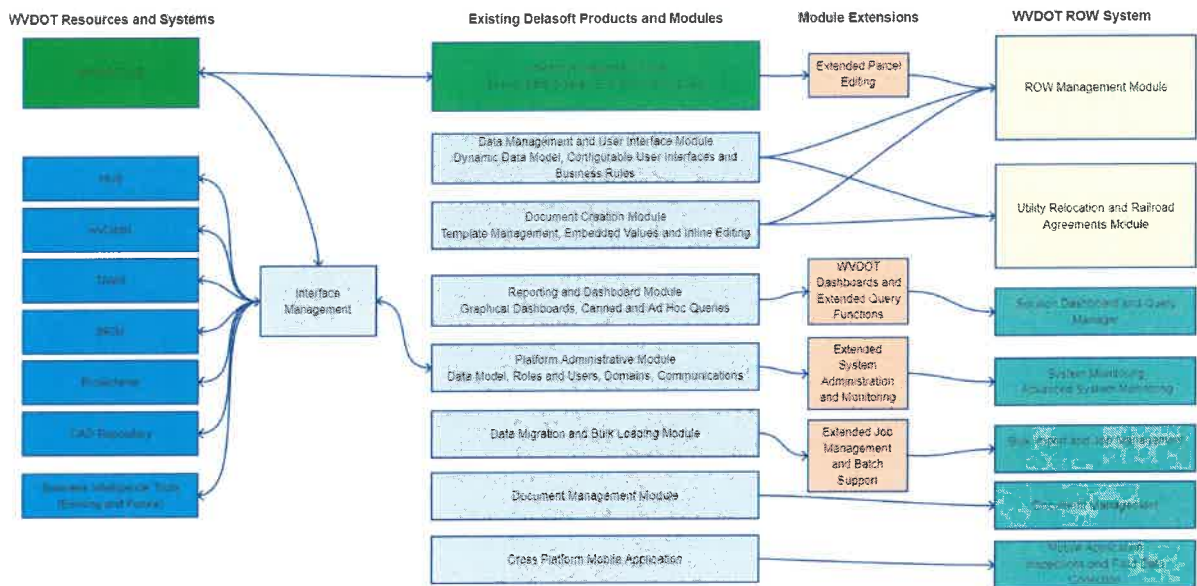


Figure 5 - Solution diagram

Proposed VPS Components

ROW Management Module

The ROW Management Module will provide the tools for a project-based approach to ROW acquisition workflows. Each project type can be configured with distinct data models, workflows,

West Virginia Department of Transportation (WVDOT)

ROW Management System – 62210C002 (RFP #0803 DOT2200000002)

business rules, reports and communications preferences. The projects will be geographically referenced to parcels and will provide configurable workflows to guide system users through processes including:

- Managing parcel information
- Appraisal
- Acquisition-Negotiation
- Relocation
- Legal Condemnation
- Payment Management
- Contract Management
- Property Management
- Reporting

Utility Relocation and Railroad Agreements Module

The Utility Relocation and Railroad Agreements Module will provide the tools and interfaces necessary to manage location and business data associated with utility relocation activities and relevant railroad agreements. The interfaces and corresponding business rules will be configured to provide efficient tools for data entry, data maintenance, integration with other datasets and systems, reports and formatted document generation and system communications.

Solution Dashboard and Query Manager

The Dashboard and Query Manager will be available to all system users and will provide single stop access to summary data via dashboards and queries both canned and ad hoc. Depending on the role(s) of the user, the dashboards may present summary project lists, outstanding tasks, project communications or graphical representations of projects by status, geographic location or other metrics. Clicking on data records in the dashboards will provide quick access to detailed project records in other VPS modules.

System Monitoring

An enhanced system monitoring component will be created to provide solution wide monitoring of resource utilization, report management, batch job control, metadata management, archiving and data auditing. This component will provide authorized users information that will keep the solution stable and performant as well as inform decisions on configuration changes and enhancements.

Bulk Import and Job Management

The Bulk Import and Job Management component will provide authorized users an interface to create and execute batch reports, data imports and exports. Functional and technical design of this component will be critically important to prevent the desired functionality from negatively impacting solution performance or data integrity.

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Document Management

The document management component will provide tools to manage a wide variety of attachments and their relationships with system records. The system will allow authorized users to submit documents, categorize them by type and associate them with system records. An integration with existing document management platforms including Projectwise will provide seamless association of document stored outside of the VPS with VPS records.

Mobile Application

Delasoft web solutions are paired with a corresponding mobile application that will be configured to display system data in a mobile friendly format. The app can be used to make authorized field edits as well as capture inspection records which can then be synced into the enterprise database. The mobile app can be used both online and offline.

Integration With WVDOT Applications

The components described above will be part of a larger WVDOT infrastructure and efficient integration with existing systems will be an important part of the solution. The Delasoft team has extensive experience integrating our products with a variety of other technologies including:

- Enterprise GIS implementations including Esri Roads and Highways
- Data transfer mechanisms with other business unit repositories
- Commercial document management systems
- Enterprise authentications systems

The implementation team will collaboratively with WVDOT business unit and IT staff to develop detailed specifications for an integration plan that accomplishes the functional goals while adhering to required technical and security practices.

Delasoft Modules Supporting VPS Components

Several existing product modules will be leveraged to create the VPS components. These modules will be extended to meet specific VPS requirements. Many of the modules described below will be leveraged for multiple VPS components.

Interactive Mapping Module

All of Delasoft's platforms contain dynamic mapping interfaces to display and edit spatial data. The module will allow configurable access to WVDOT spatial data in standard REST formats. The display can be embedded into components or accessed as a standalone web component. Users will have access to tools based on their role and can control the visibility of layers, basemaps and other assets. Basic selection, query, buffer and editing functions will be enhanced to support requirements for parcel management and other functions.

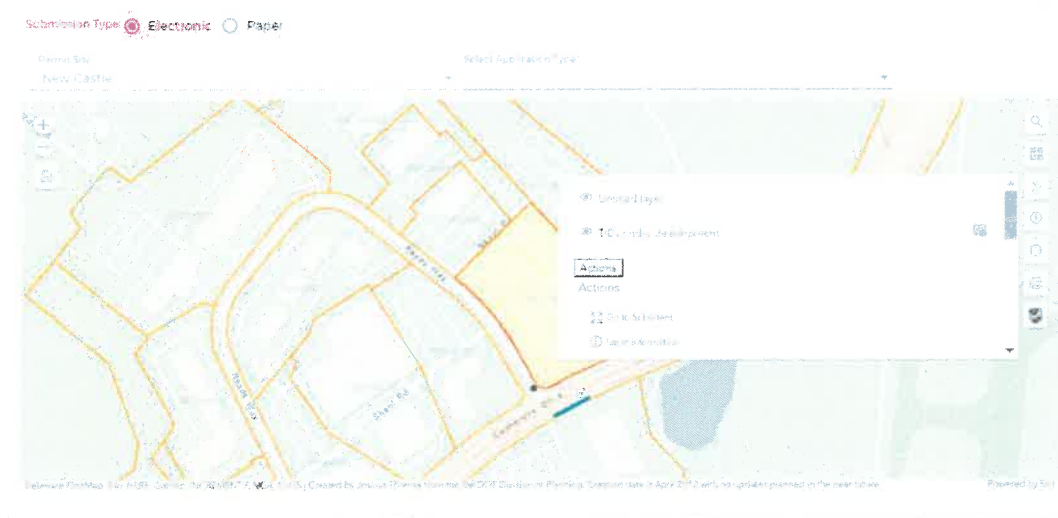


Figure 6 - Solution Mapping Interface

Data Management and User Interface Module

This module provides configurable interfaces to view and edit system records. The administrative tools provide full control over the data model and user interface layout. The platform administrator can add, remove or modify data items and create editing layouts suitable to the business process. All domains are managed in the administrative interface. A robust business rules engine allows the administrator to require fields, enable or disable fields, and set values automatically based on user actions and changing data values.

Different layouts and business rules can be defined for different record types. Data entry layouts can be configured and grouped by collapsible sections to allow the user to more easily manage subsets of data visible on the screen. Each component in the solution can be opened in a separate tab or window to maximize the use of multiple monitor setups.

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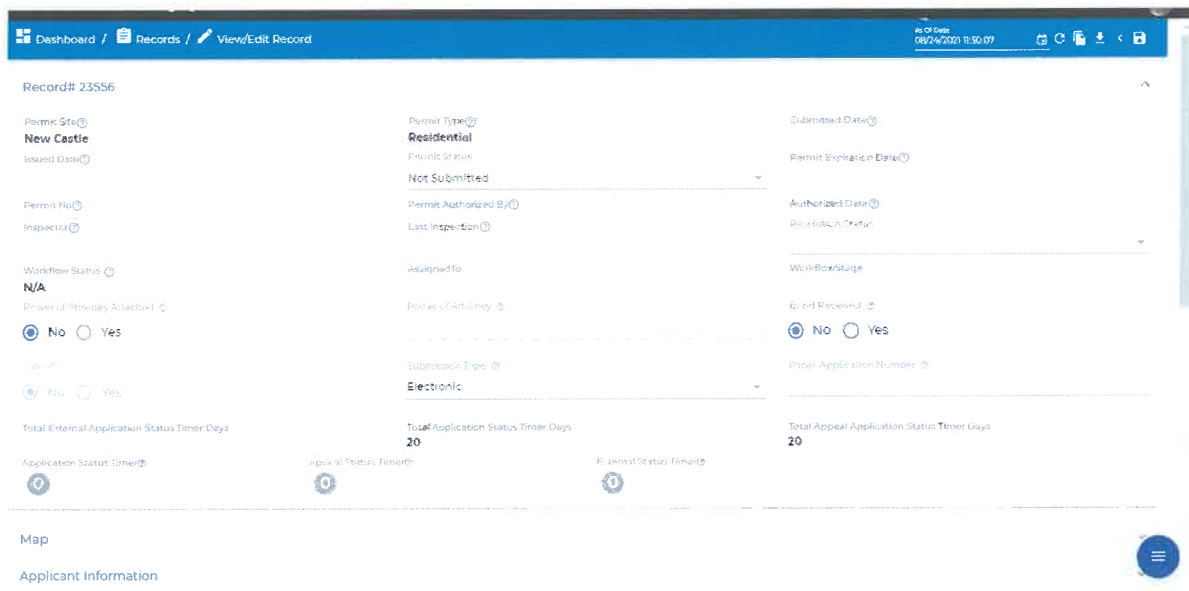


Figure 7 – Permit Record Editing Interface

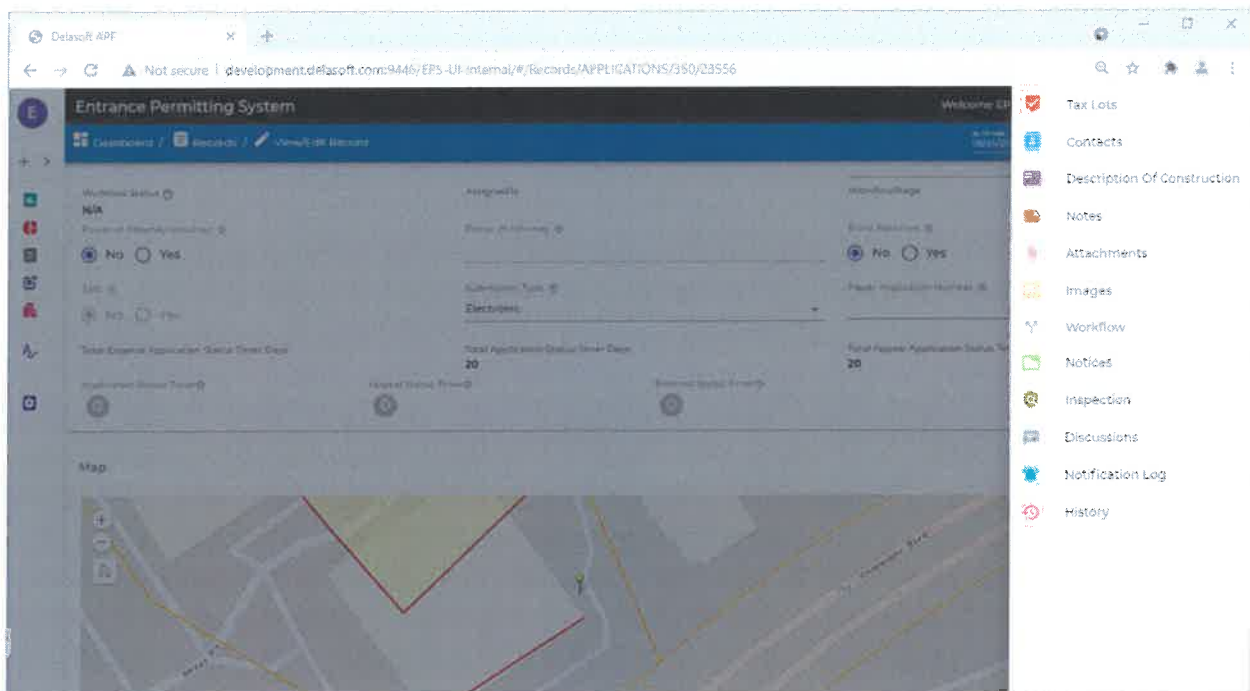


Figure 8 – Application Record Editing Interface

Document Creation Module

Structured documents, referred to as notices in the platform, can be created either manually or by business rules and saved in the platform repository or sent via a notification. These documents can be fully formatted and generated with embedded content from the system records. A fully functional online Microsoft Word editor is included in the platform both for creating and maintaining notice templates and editing final form notices. Notices can be created to provide formal letters, invoices or any other formatted document.

West Virginia Department of Transportation (WVDOT) ROW Management System – 62210C002 (RFP #0803 DOT2200000002)

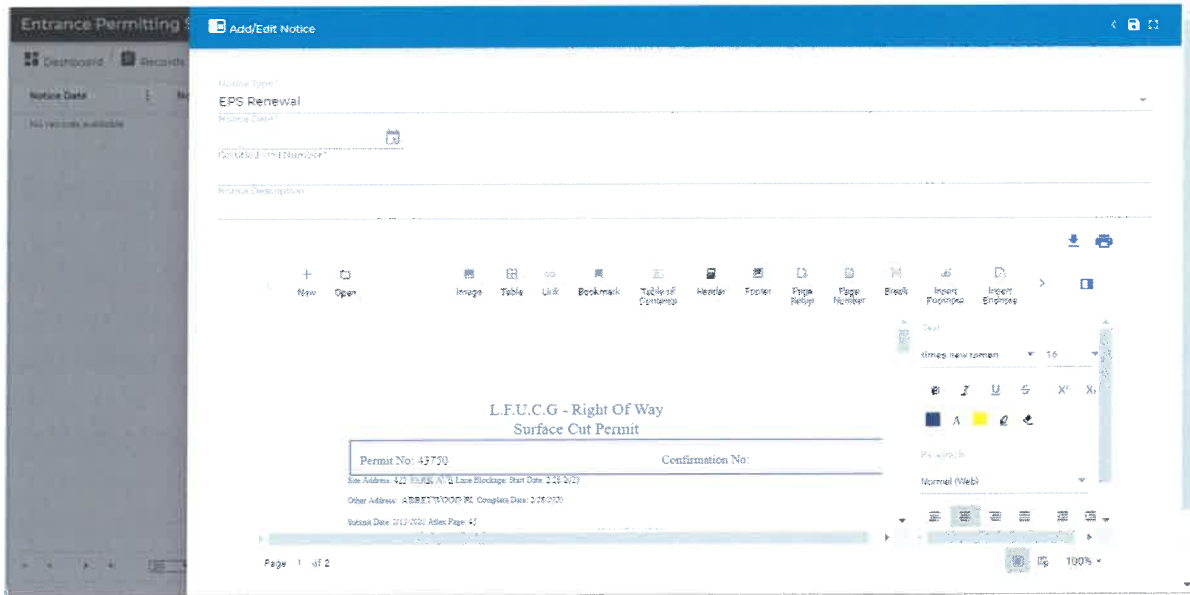


Figure 9 - Notice Template Editor

Reporting and Dashboard Module

All users have access to dashboard interfaces displaying property records and system communications. The dashboards are configurable and allow the user to control visible data items as well as sort and filter the rows. Communications, referred to as notifications in the platform, may be created manually or automatically as part of a configurable business rule. Notifications can be purely internal or can be sent via email to external parties.

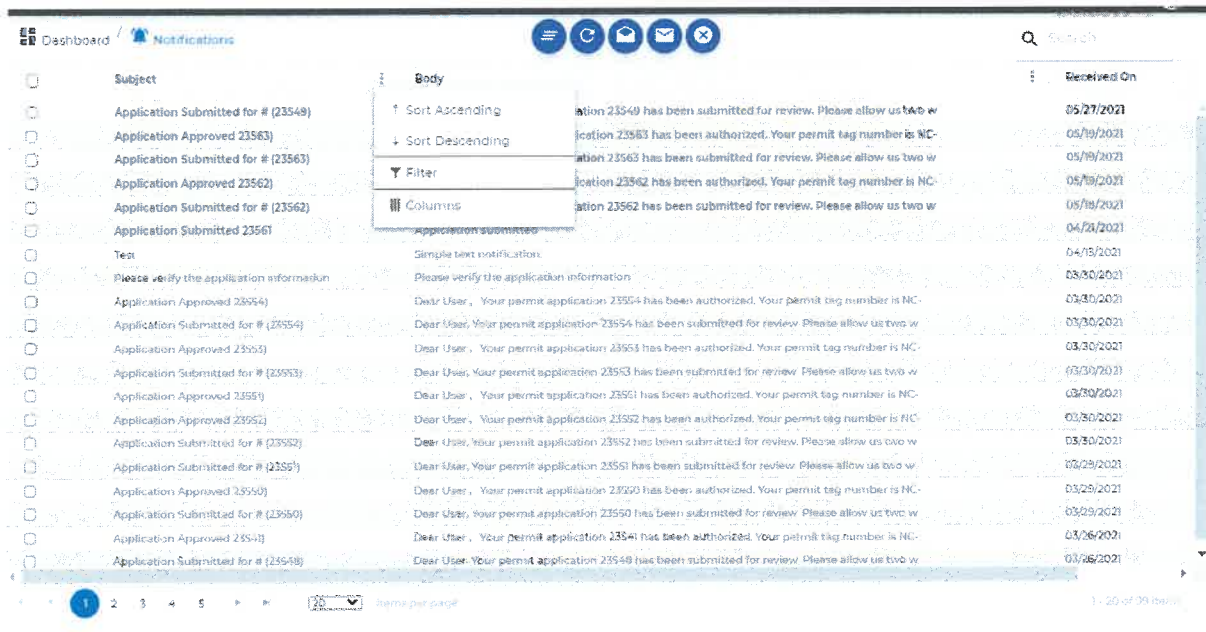


Figure 10 - Notifications Dashboard

West Virginia Department of Transportation (WVDOT) ROW Management System – 62210C002 (RFP #0803 DOT2200000002)

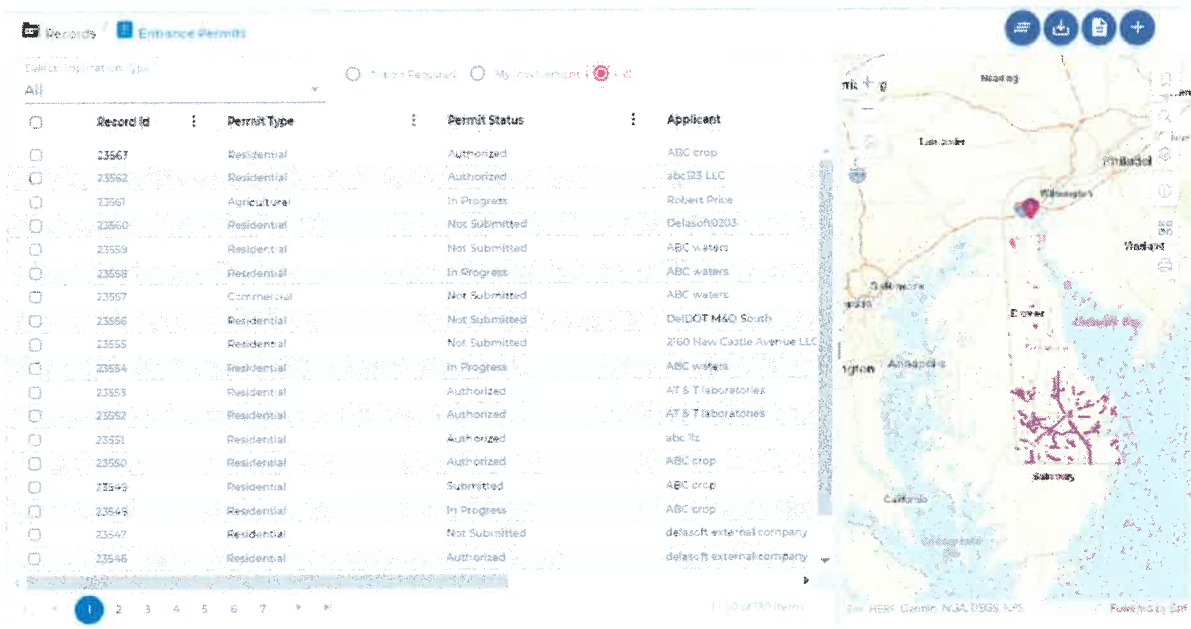


Figure 11- Permit Record Dashboard

Query and Reporting Interface

The platform provides a querybuilder style query and reporting interface. Canned and ad hoc queries can be created and shared with users based on roles. Queried datasets can be viewed, printed and shared.

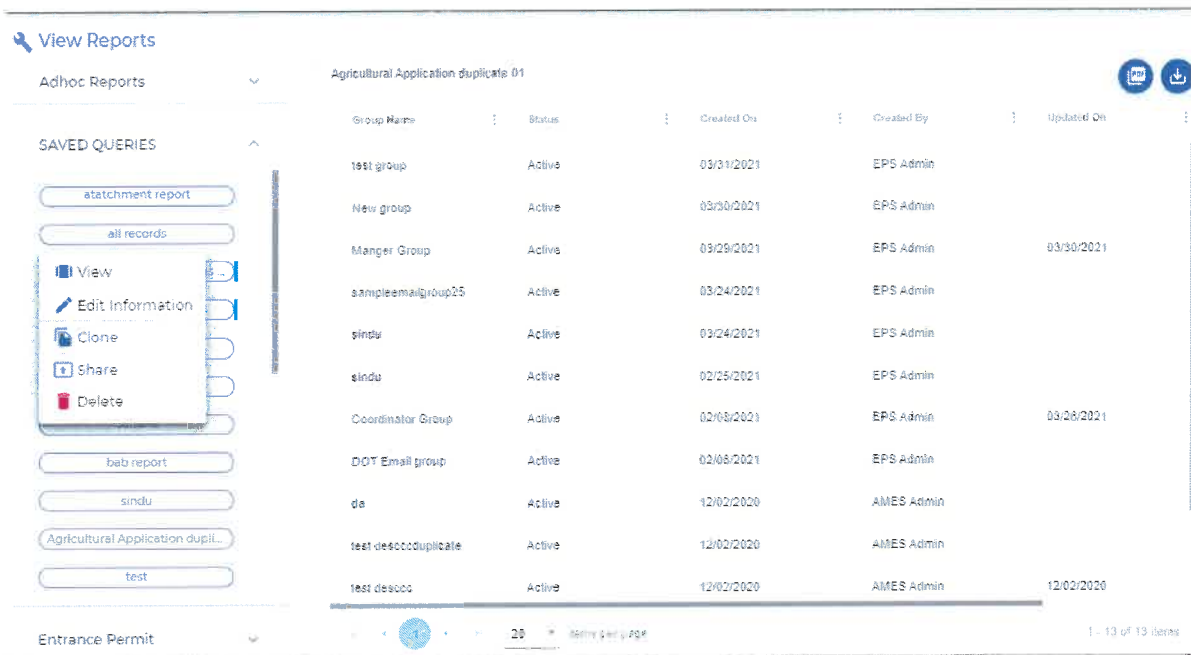


Figure 12 - Query and Report Builder Interface

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Platform Administrative Module

A comprehensive interface for managing solution configuration is available to authorized administrative users. The module provides control of:

- The data model
- User interfaces including layouts and business rules
- Domains
- Roles
- Users
- Notice templates
- Notification templates
- Alert messages
- External user access
- Record status sequences
- Mobile app data access
- Structured workflows

Tiered User Roles

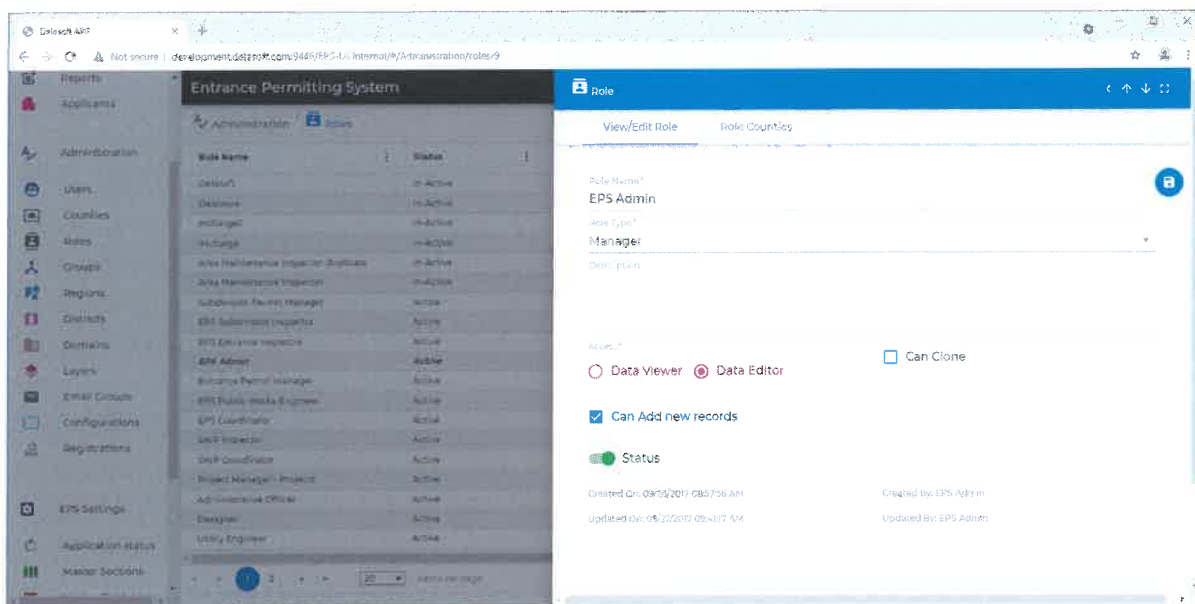


Figure 13 - Admin: Editing Role Types

West Virginia Department of Transportation (WVDOT) ROW Management System – 62210C002 (RFP #0803 DOT2200000002)

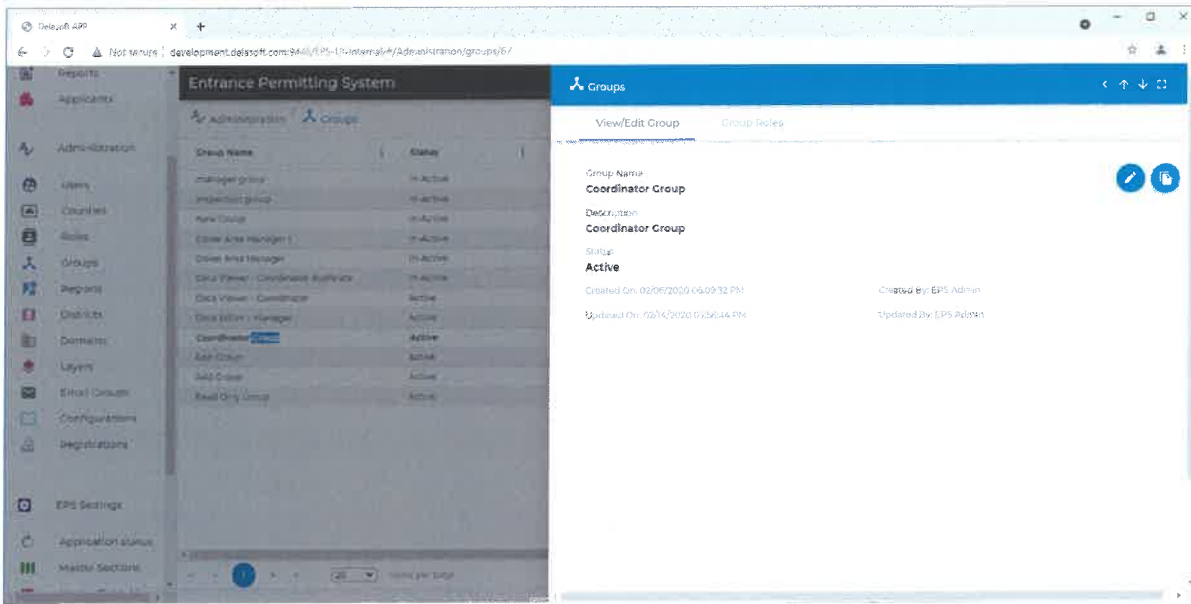


Figure 14 - Admin: Editing User Groups

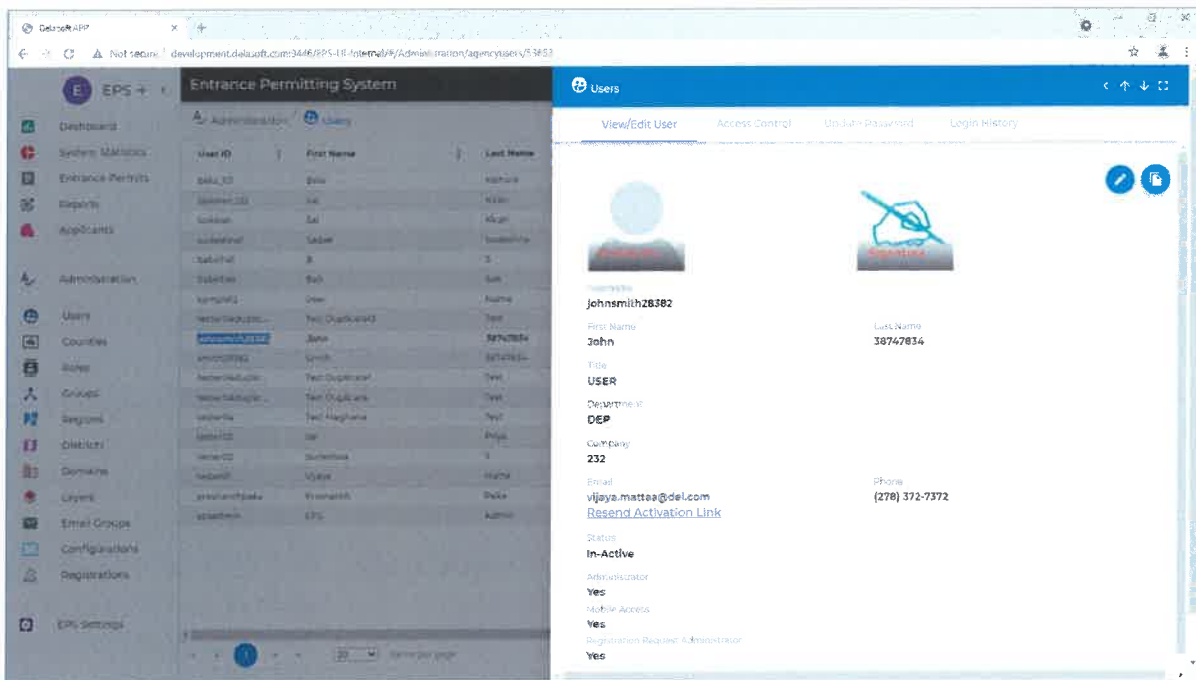


Figure 15- Admin: Editing Individual User Permissions

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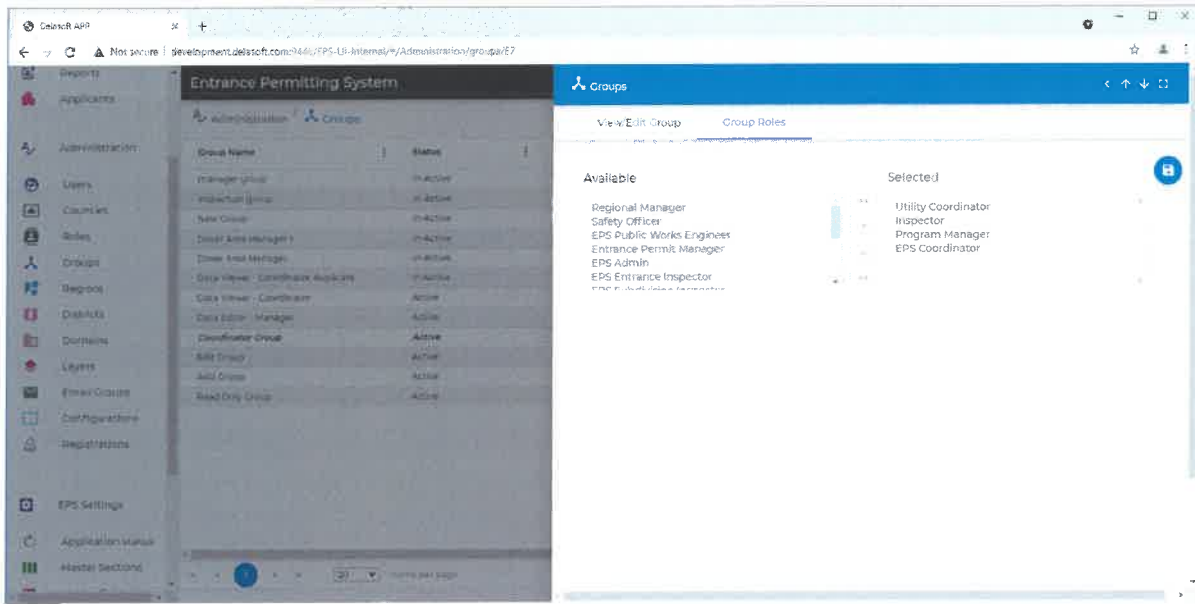


Figure 16 - Admin: Adding Roles to User Groups

Domains

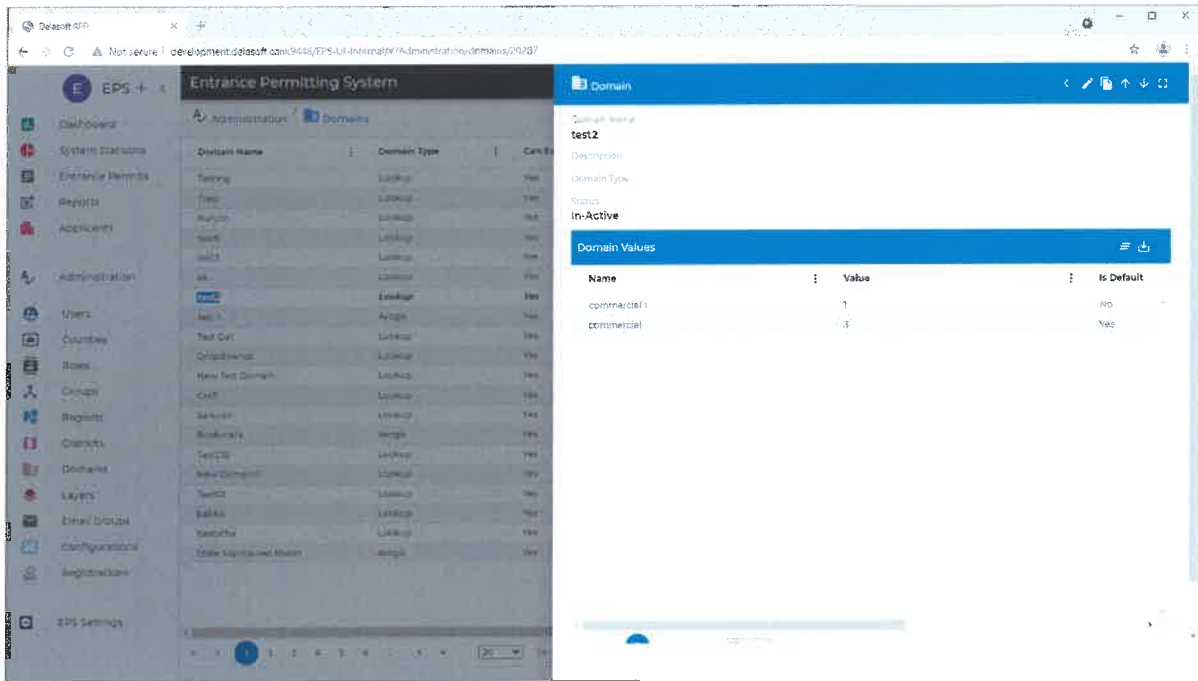


Figure 17 - Admin: Editing Domain Details

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GIS Tools

The screenshot shows the 'Administration Layers' page in the Delacoff APP. The page title is 'Entrance Permitting System' and it includes a navigation sidebar on the left and a table of layers in the main content area. The table has the following columns: Layer Name, URL, Category, Layer Color, Highlight Color, Status, and Created On. The table contains 16 rows of data, including layers like 'Traffic Counts', 'TID Under Development', 'Airports', 'DRAFT Gate Entrance', 'DE Airport_InstalationArea', 'DE Runway_Centerline', 'DE Airport_Features', 'Bus Stop Pedestrian', 'Sidewalk', 'Bookmarks', 'Maintenance Roads', 'Subdivisions', 'Maintenance Roads', 'Bookmarks', 'County Boundaries', 'Promoted Projects', 'ADCCORD', 'SP19 99% 2017 2014-16 crash test', and 'Highway Mile Point - Onest4'.

Layer Name	URL	Category	Layer Color	Highlight Color	Status	Created On
Traffic Counts	https://firstmap.gis.delaware.gov...				In-Active	
TID Under Development	https://firstmap.gis.delaware.gov...				Active	
Airports	https://firstmap.gis.delaware.gov...	Review Page			Active	
DRAFT Gate Entrance	https://firstmap.gis.delaware.gov...	Review Page			Active	
DE Airport_InstalationArea	https://firstmap.gis.delaware.gov...	Record List			Active	
DE Runway_Centerline	https://firstmap.gis.delaware.gov...	Record List			Active	09/01/2021 09:00:44 A
DE Airport_Features	https://firstmap.gis.delaware.gov...	Landing Page			Active	05/26/2021 06:43:52 A
Bus Stop Pedestrian	https://firstmap.gis.delaware.gov...	Landing Page			Active	05/10/2021 01:05:07 A
Sidewalk	https://firstmap.gis.delaware.gov...	Ads Record Page			Active	08/19/2021 03:25:45
Bookmarks	http://development.delacoff.co...	Landing Page			Active	07/15/2021 09:02:79
Maintenance Roads	https://firstmap.gis.delaware.gov...				In-Active	02/12/2021 11:02:91 A
Subdivisions	https://firstmap.gis.delaware.gov...				Active	02/18/2021 04:02:51
Maintenance Roads	https://firstmap.gis.delaware.gov...				Active	02/18/2021 04:02:59 A
Bookmarks	http://development.delacoff.co...	Record List			Active	02/09/2021 10:11:55 P
County Boundaries	https://gisweb.todot.state.or.us/...	Landing Page			Active	03/15/2021 11:02:44 A
Promoted Projects	https://development.delacoff.co...				Active	02/10/2021 07:12:63 A
ADCCORD	https://development.delacoff.co...				Active	12/09/2020 02:10:79 A
SP19 99% 2017 2014-16 crash test	https://gisweb.todot.state.or.us/...	Record List			In-Active	12/02/2020 06:02:42 A
Highway Mile Point - Onest4	https://gisweb.todot.state.or.us/...	Record List			In-Active	12/02/2020 03:12:84 A

Figure 18 - Admin: GIS Layers

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Record Type

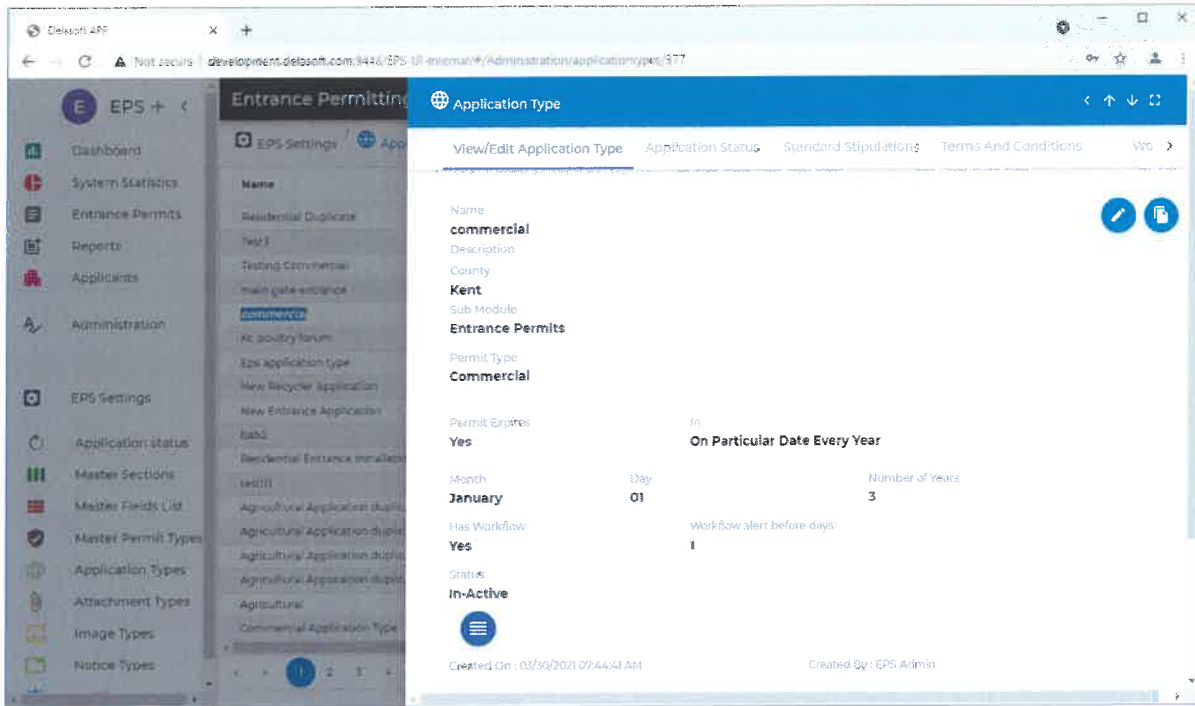


Figure 19 - Admin: Creating and Editing Application Types

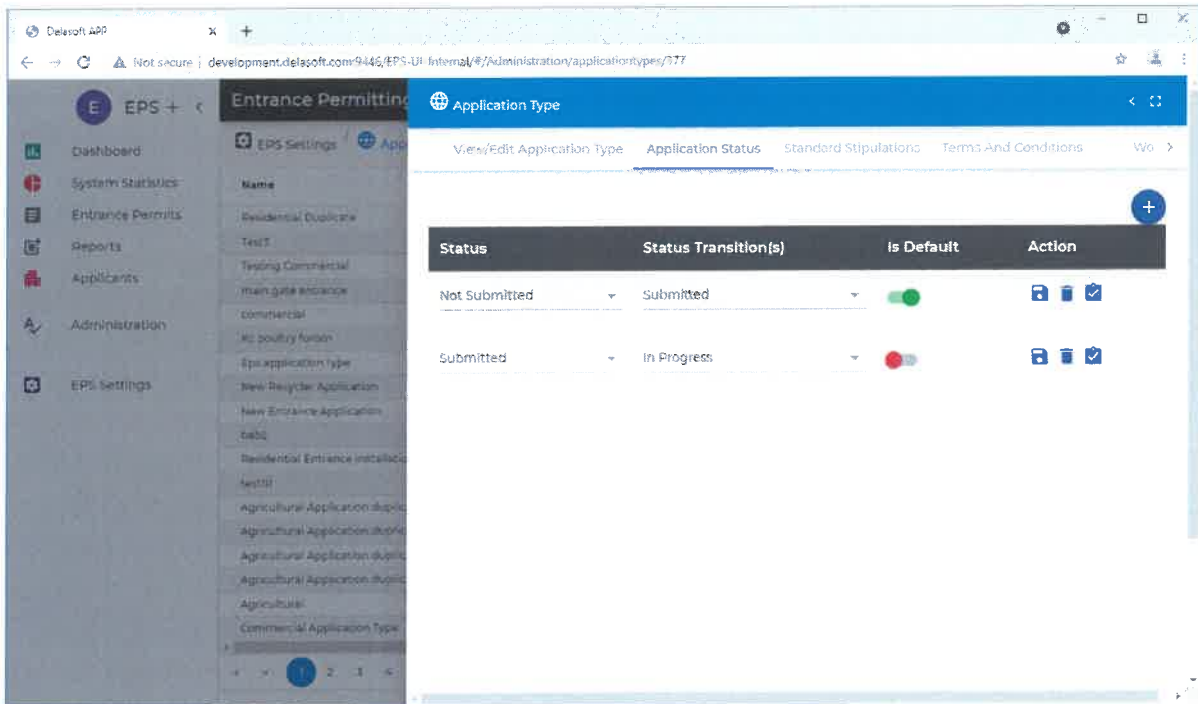


Figure 20 - Admin: Editing Application Types

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User Interfaces

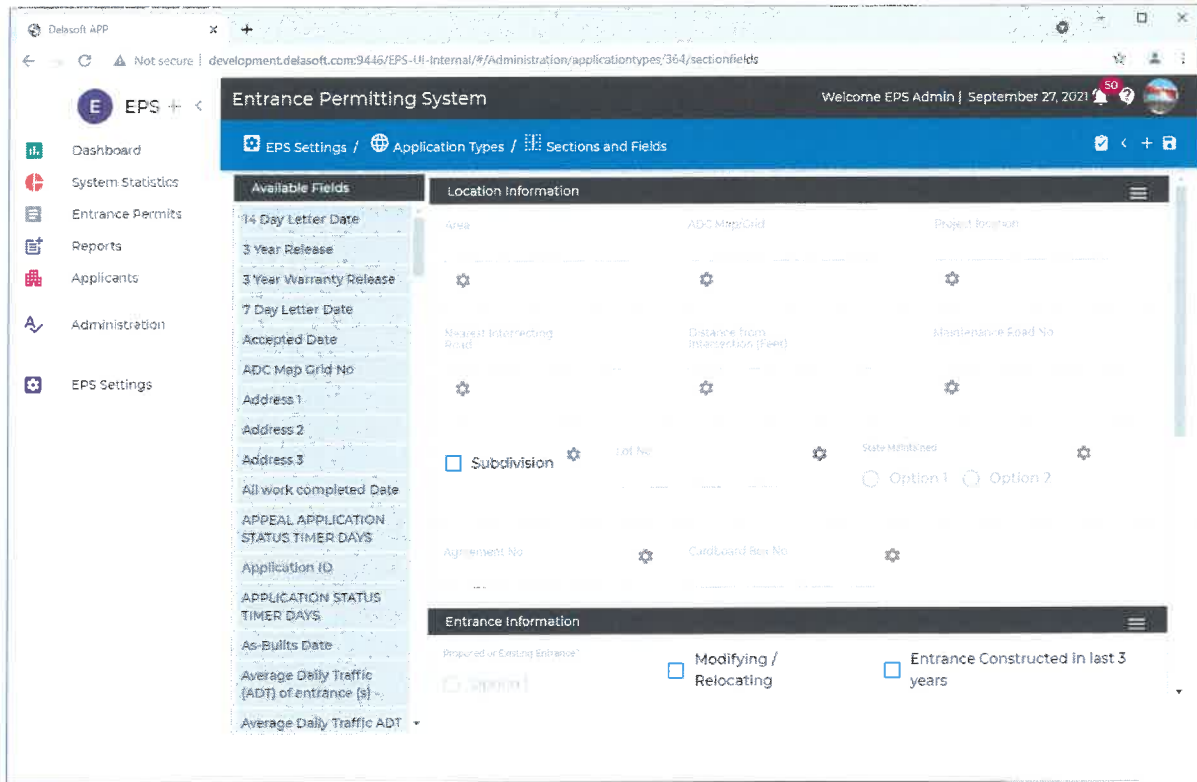


Figure 21 - Admin: Custom Application Fields

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Business Rules

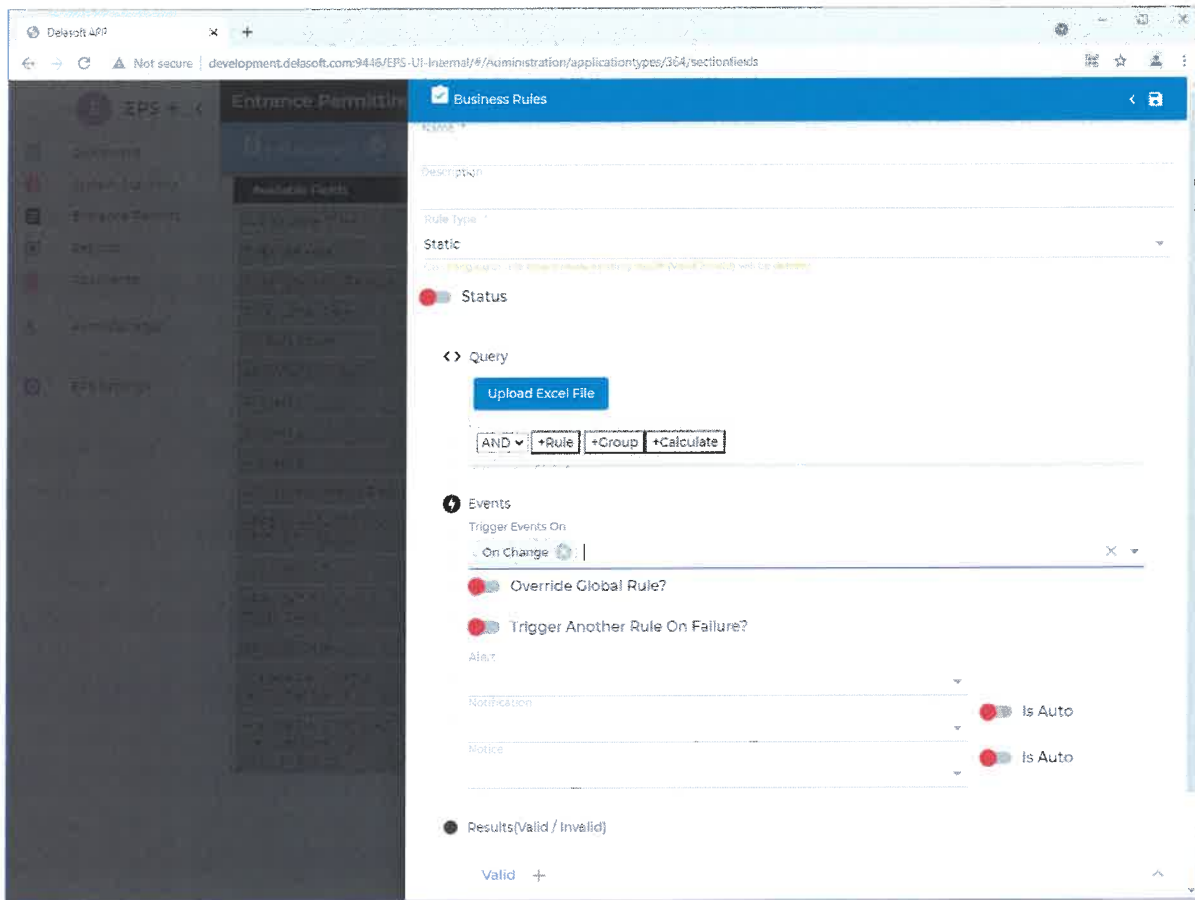


Figure 22 - Admin: Configurable Business Rules Engine

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Notices

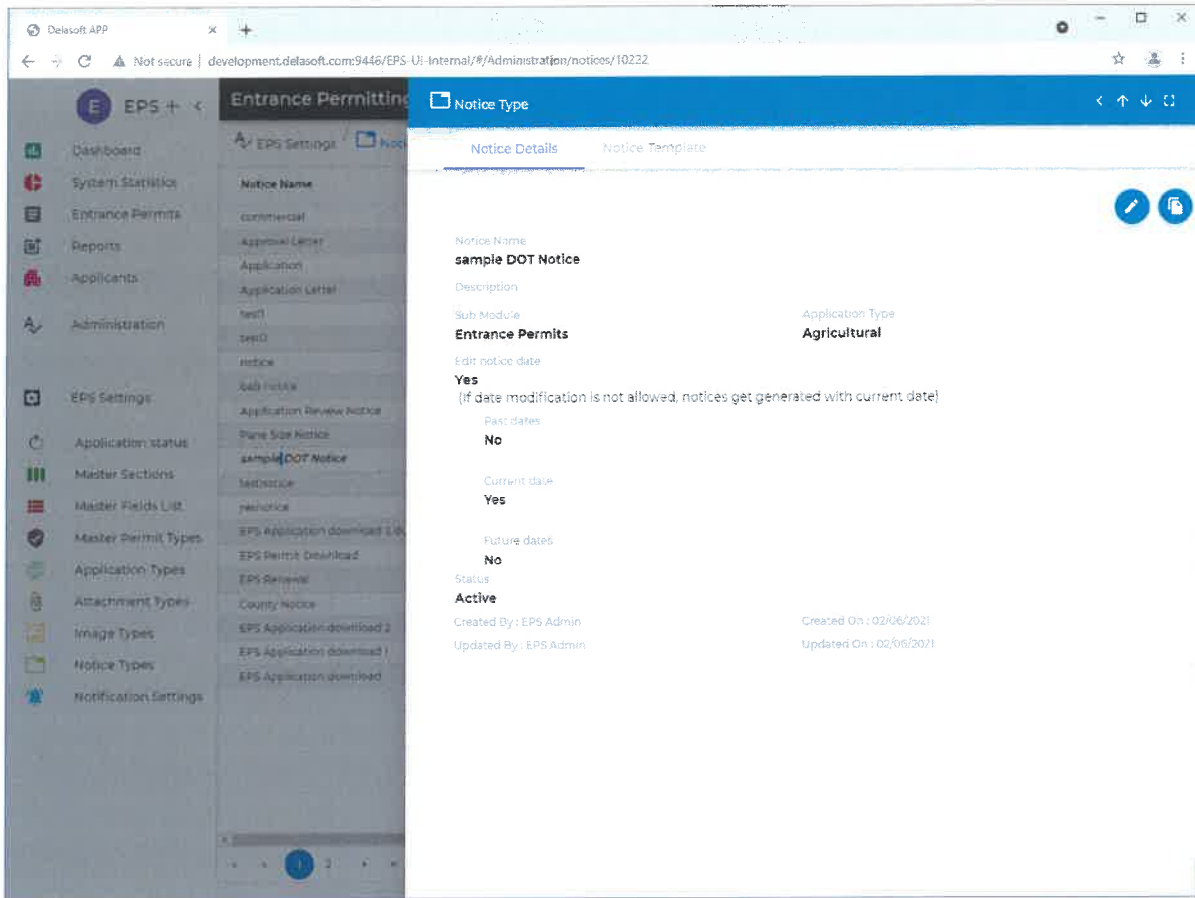


Figure 23 - Admin: Creating a Notice Type

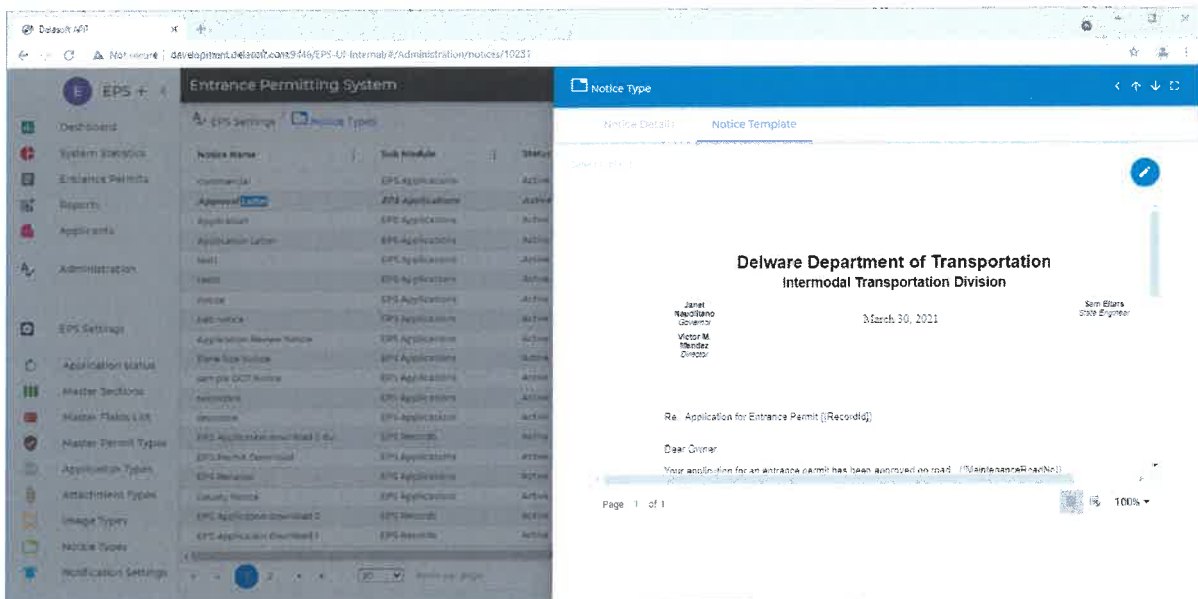


Figure 24 - Admin: Notice Templates

West Virginia Department of Transportation (WVDOT) ROW Management System – 62210C002 (RFP #0803 DOT2200000002)

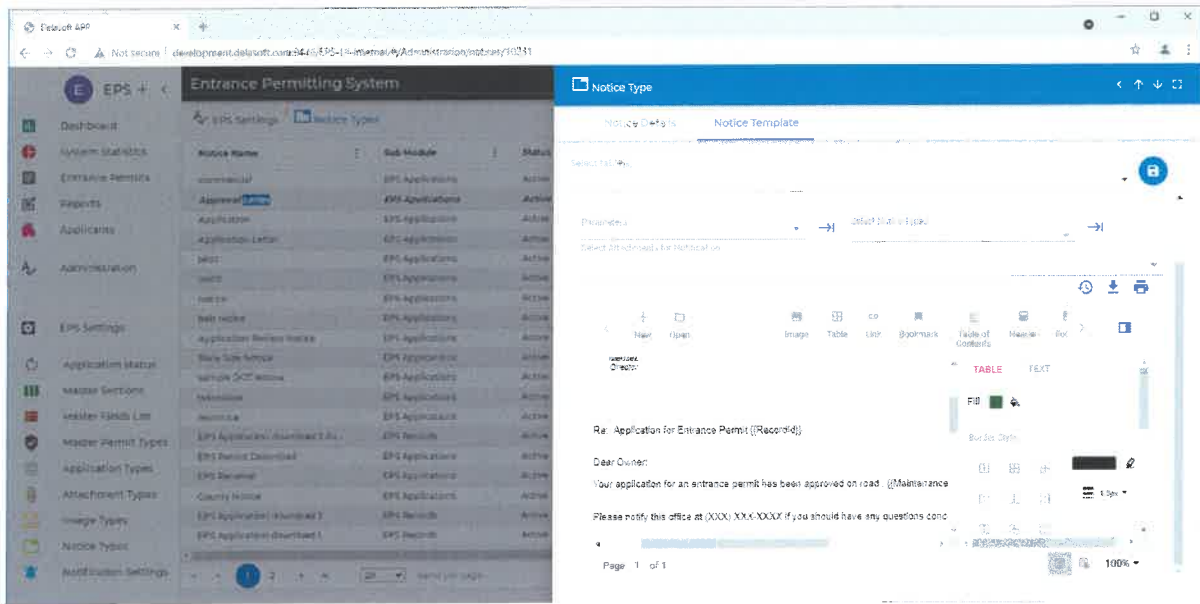


Figure 25- Admin: Notice Template Editor

Notifications

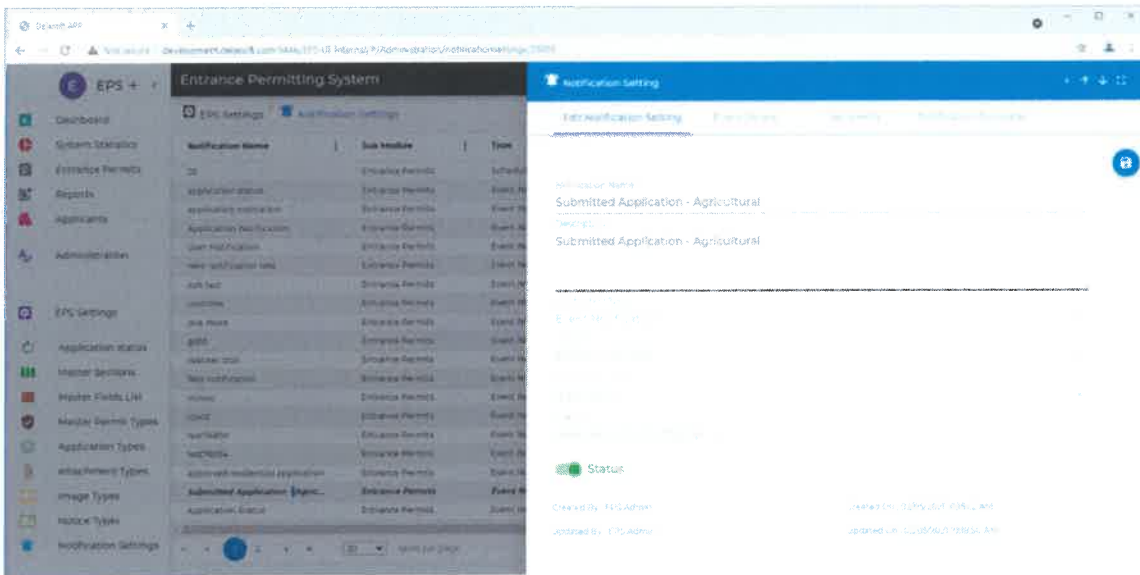


Figure 26 - Admin: Custom Notifications

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The screenshot shows the 'Notification Setting' page in the 'Entrance Permitting System'. The left sidebar lists various system components. The main area features a table with the following columns: Notification Name, Sub Module, and Type. The table lists various notification events such as 'application status', 'application initiation', and 'application withdrawal'. On the right, the 'Notification Setting' panel is active, showing tabs for 'Edit Notification Setting', 'Event Details', 'Recipients', and 'Notification Template'. The 'Recipients' tab is currently selected, displaying a list of notification events with checkboxes for 'Not Submitted' and 'Submitted'.

This screenshot shows the 'Recipients' tab of the 'Notification Setting' page. It contains three main sections with checkboxes:

- Send notification to users belonging to selected roles
- Send notification to named users
- Send notification to applicant or owner

Below these sections are dropdown menus for selecting roles and contact types. The 'Send notification to named users' section includes a text area with the following text:

notification will be sent to users based upon region access and role membership. Workflow notifications are always sent to the assigned user in addition to the recipients selected on this screen. Users will not receive multiples of the same notification. Application, notices are only sent to users that belong to the region of the application. Only users that belong to the regions selected are listed in named users. They receive the notification irrespective of belonging to the roles selected as long as they have region access.

The 'Send notification to applicant or owner' section includes a dropdown menu with 'Applicant' selected. A note at the bottom states: 'If sending notification to Applicants/Contract or Property Owner, please ensure that the corresponding notification template has been created. If the applicant/contract or property owner has not accepted electronic communication or has no email address, the notification will not be sent via email.'

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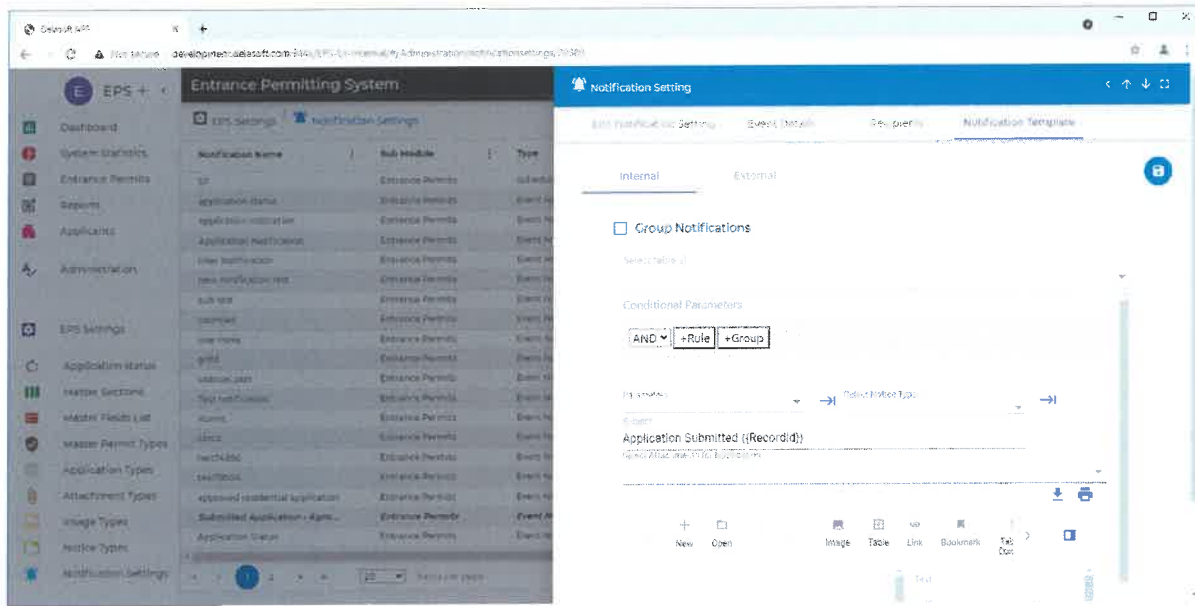


Figure 27- Admin: Custom Notification Business Rules

Structured Workflows

The platform provides structured workflows based on record type. These workflows can provide guidance for users to follow established business processes and can be purely informational or enforced by requiring steps to be taken or sequences to be followed. A visual diagram of the workflow for the current record type is always available and simple paths can be established by defining configurable status sequences.

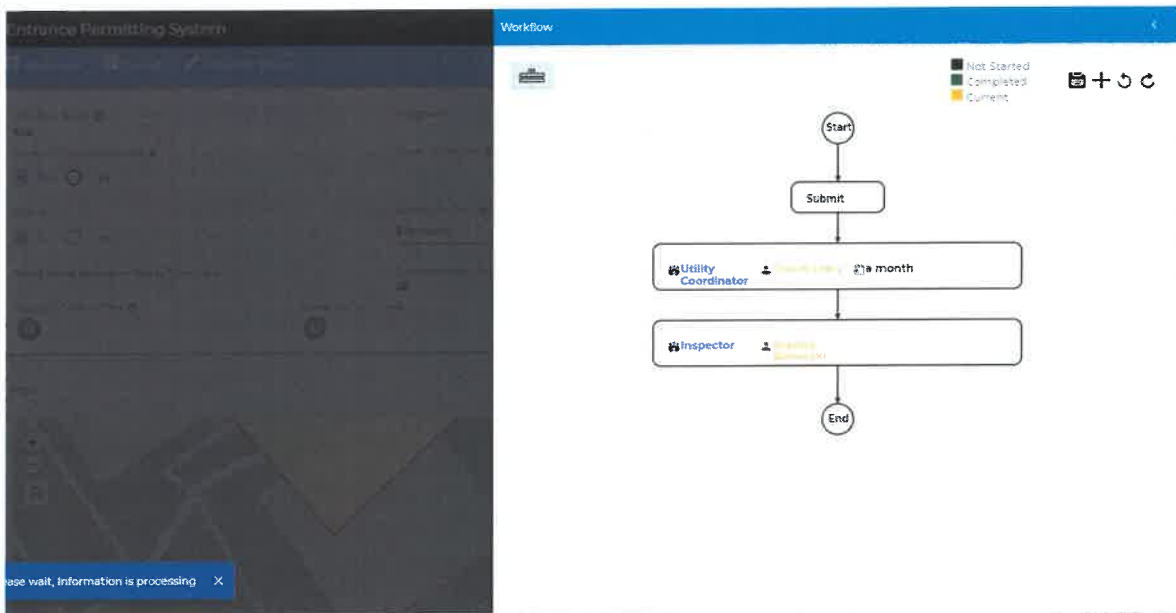


Figure 28 - Admin: Structured Workflow Engine

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Data Migration and Bulk Loading Module

Every large data management project required data migration or batch loading processes. Delasoftware has developed a library of tools for internal use for these projects. These tools will form the basis of the Bulk Import and Job Management component of VPS.

Document Management Module

The platform provides an embedded document management capability that allows for attachments to any record. This capability will be extended to integrate with Laserfiche to provide seamless interactions. All documents stored in Laserfiche will be accessible in the main interface and can be typed to allow business rule interaction.

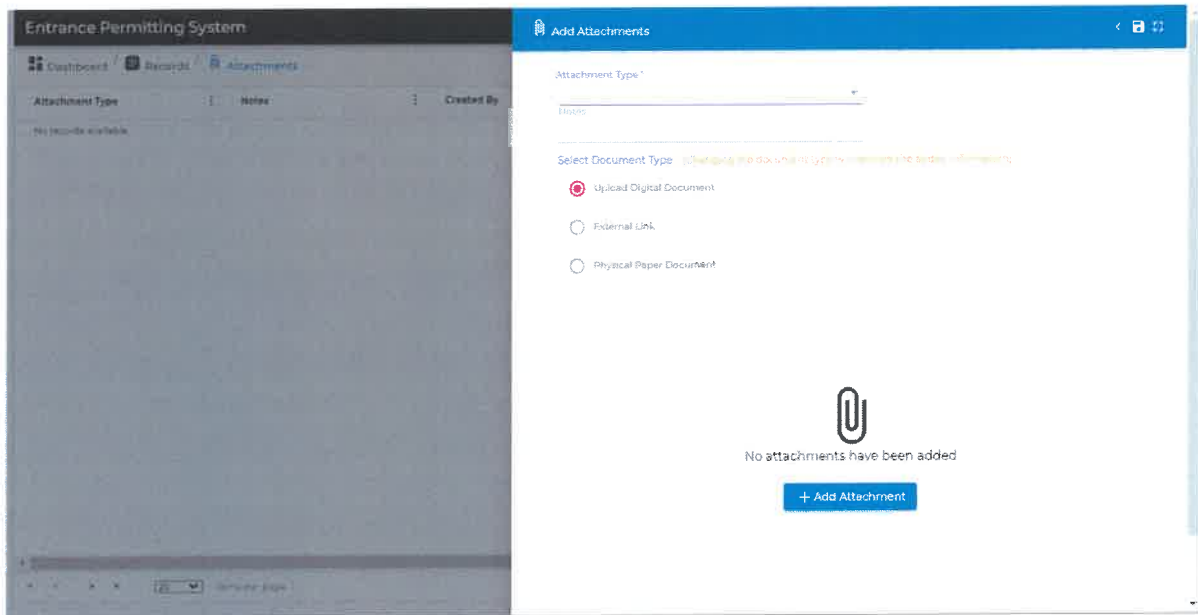


Figure 29 - Document Upload Interface

Cross Platform Mobile Application

Delasoft provides a fully functional mobile application with the platform. This app allows the user to edit and capture data while in the field and is cross-platform compliant. Depending on the detailed requirements gathered, this platform may be extended or an implementation of Esri’s field applications will be created to capture and edit field data including spatial data.

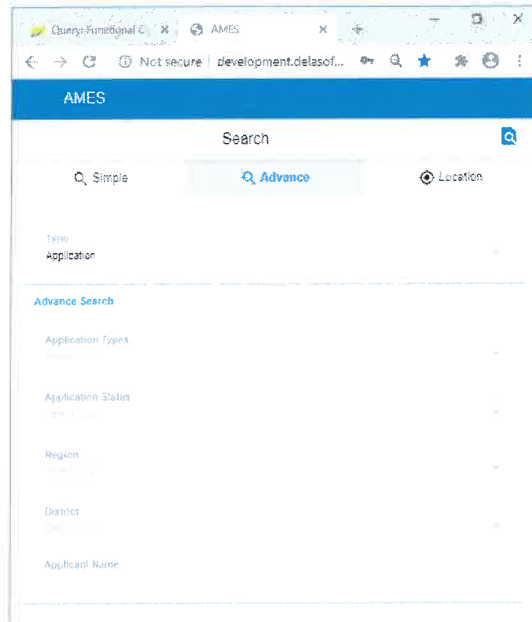


Figure 30 - Mobile Interface

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Cloud Model Hosting and Architecture

Delasoft can provide fully managed, partially (A la carte) managed or un-managed Cloud hosted SaaS (Software as a Service) using any cloud provider of the customer's preference such as Amazon AWS Cloud.

Fully Managed Service:

The fully managed service model includes setup of the cloud environment, installation and configuration of software, license maintenance (OS/DB Licenses/AV licenses), SSL certificates, and activities in support of this model include operating system admin/upgrades, security, backups, application administration/version releases, Database Administration, performance and capacity monitoring and resultant corrective actions, etc. In addition to the above, monthly status reports will be provided to the customer on activities performed on the cloud environment, status of the environment, any monitoring statistics including performance, uptime etc. This model is the most hands-off for the customer only requiring them to logon and use the software via the internet.

A fully managed service will incur an additional service fee in addition to the hosting costs.

Partially Managed Service:

In the partially managed service model Delasoft and the customer reach an agreement on the services that will be managed by Delasoft and Services that the customer will administer/manage.

Services that are always managed by Delasoft include:

- Setup of the cloud environment
- Installation and configuration of software
- Application version releases
- Application support and maintenance

Services that can be managed by the customer and/or Delasoft include but not limited to:

- License maintenance (OS/DB/AV Licenses)
- Application administration
- Database administration
- SSL certificates
- Operating system admin/upgrades
- Security
- Backups
- Performance and capacity monitoring and resultant corrective actions

Each additional service that Delasoft would have to manage in addition to the services always managed by Delasoft will incur an additional cost per service in addition to the hosting costs.

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Un-Managed Service:

In the un-managed service model Delasoft will only provide the standard setup activities before handing over the cloud account to the customer to be fully managed by the customer.

Services that are always managed by Delasoft include:

- Setup of the cloud environment
- Installation and configuration of software
- Application version releases
- Application support and maintenance

Services that will be managed by the customer include but not limited to:

- License maintenance (OS/DB/AV Licenses)
- Application administration
- Database administration
- SSL certificates
- Operating system admin/upgrades
- Security
- Backups
- Performance and capacity monitoring and resultant corrective actions

Hosting in the cloud using Amazon AWS

Amazon AWS services provide an ideal cloud platform for hosting Delasoft's software solutions in the cloud. Amazon AWS provides various availability zones or regions allowing customers to strategically select hosting locations which are geographically close to them. Amazon AWS also has a Government only region called AWS GovCloud for government customers. AWS GovCloud (US) is an isolated AWS Region designed to allow US government agencies and customers to move sensitive workloads into [the cloud](#) by addressing their specific regulatory and compliance requirements.

Specific AWS services that can be used to host Delasoft solutions are:

- Amazon EC2: Application servers, Windows server with IIS
- Amazon EBS Volumes: Non-volatile Physical storage volumes attached to Instances
- Amazon S3: Storage for long term backups
- Amazon RDS: Relational Database Service, Provides managed secure Sql Server or Oracle database Service
- Amazon CloudWatch: Amazon CloudWatch is a web service that enables you to monitor your Amazon EC2 instances, Amazon EBS volumes, Elastic Load Balancers, and Amazon RDS database instances in real-time.

Web Application Backups and Disaster Recovery:

Automated scripts can be configured to take instance backups (snapshots) to EBS volumes on a regular schedule. The web applications do not store any data on the web server and it is not

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envisioned that daily backups of the web applications are needed. An EC2 instance can be brought back up using the instance snapshot. Scripts will copy the backups to long term storage on Amazon S3. Retention period can be controlled by the customer.

DB Backup & Disaster Recovery:

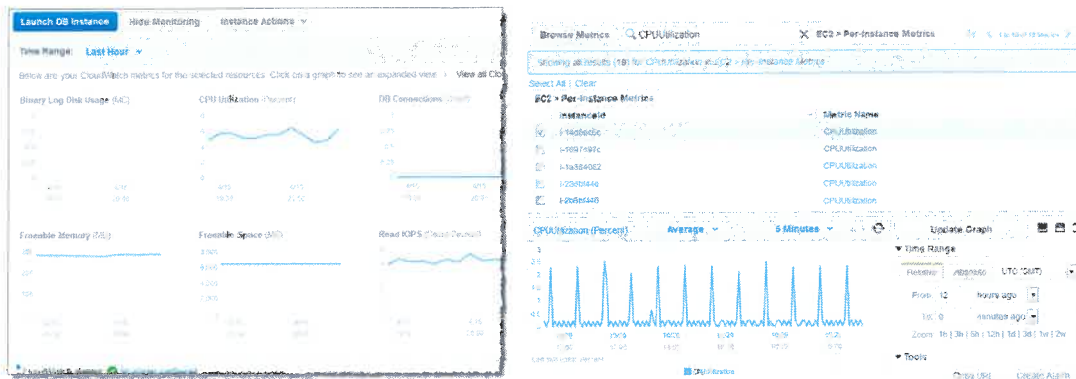
Automated Backups – Turned on by default, the automated backup feature of Amazon RDS enables point-in-time recovery for your DB Instance. Amazon RDS will back up your DB Instance daily and your transaction logs at 5 minute intervals and store both for a user-specified retention period. This allows you to restore your DB Instance to any second during your retention period, up to the last five minutes. Your automatic backup retention period can be configured to up to 35 days.

DB Snapshots – DB Snapshots are user-initiated backups of your DB Instance. These full database backups will be stored by Amazon RDS until you explicitly delete them. You can create a new DB Instance from a DB Snapshot whenever you desire.

Monitoring:

Amazon CloudWatch is a web service that enables you to monitor your Amazon EC2 instances, Amazon EBS volumes, Elastic Load Balancers, and Amazon RDS database instances in real-time. You can also supply your own custom application metrics. With Amazon CloudWatch you can access up-to-the-minute statistics, view graphs, and set alarms for your metric data.

Based on CloudWatch metrics, Instances can be scaled up based on demand. One can also setup auto scaling if required.



Example CloudWatch Graph metrics for RDS DB Instance and EC2 Instance

EPS
Network Architecture Diagram (Cloud Hosted)

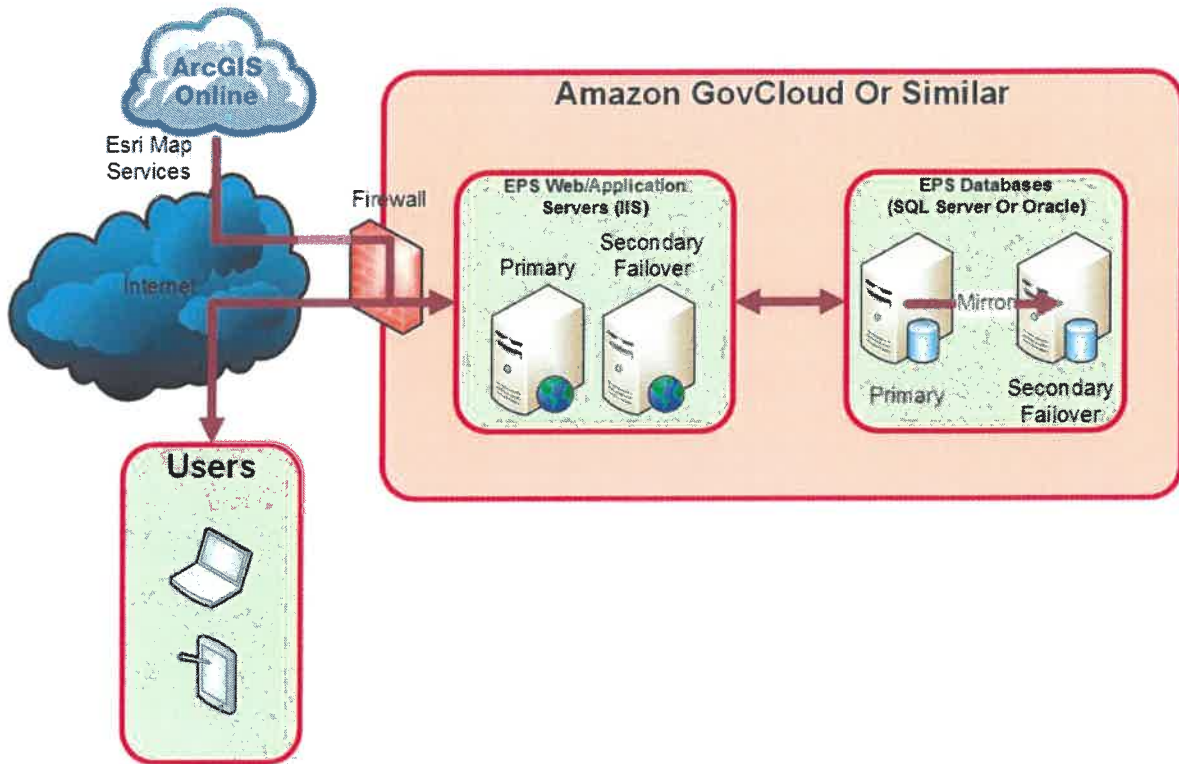


Figure 31– Architectural Diagram

Amazon datacenters are ISO 27001 Certified.

Details of the Certification can be found here: <http://aws.amazon.com/compliance/iso-27001-faqs/>



Certificate

Certificate number: 2013- 009

Certified by EY CertifyPoint since:
November 18, 2010



Based on certification examination in conformity with defined requirements in ISO/IEC17021:2011 and ISO/IEC 27006:2011, the Information Security Management System as defined and implemented by

Amazon Web Services, Inc.*

headquartered in Seattle, Washington, United States of America, is compliant with the requirements as stated in the standard:

ISO/IEC 27001:2013

Issue date of certificate: November 11, 2013
Re-issue date of certificate: November 4, 2014
Expiration date of certificate: November 12, 2016

EY CertifyPoint will, according to the certification agreement (dated October 23, 2014), perform surveillance audits and acknowledges the certificate until the expiration date of the certificate.

**This certificate is applicable for the assets, services and locations as described in the scoping section on the back of this certificate, with regard to the specific requirements for information security as stated in Statement of Applicability, approved on September 24, 2014.*

Drs. R. Toppen RA
Director EY CertifyPoint

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West Virginia Department of Transportation (WVDOT)

ROW Management System – 62210C002 (RFP #0803 DOT2200000002)



Amazon Web Services, Inc.



Annex to certificate 2013- 009

The scope of this ISO 27001:2013 Certification is bounded by specified services of Amazon Web Services, Inc. and specified facilities. The ISMS is centrally managed out Amazon Web Services, Inc. headquarters in Seattle, Washington, United States of America.

The in-scope applications, systems, people, and processes are globally implemented and operated by teams out of an explicit set of facilities that comprise Amazon Web Services, Inc. and are specifically defined in the scope and bounds.

The Amazon Web Services, Inc. ISMS scope includes the following services:

- AWS CloudFormation
- AWS CloudHSM
- AWS CloudTrail
- AWS Direct Connect
- Amazon DynamoDB
- Amazon Elastic Beanstalk
- Amazon Elastic Block Store (EBS)
- Amazon Elastic Compute Cloud (EC2)
- Elastic Load Balancing (ELB)
- Amazon Elastic MapReduce (EMR)
- Amazon ElastiCache
- Amazon Glacier
- AWS Identity & Access Management (IAM)
- Amazon Redshift
- Amazon Relational Database Service (RDS)
- Amazon Route 53
- Amazon Simple Storage Service (S3)
- Amazon SimpleDB
- Amazon Simple Workflow (SWF)
- AWS Storage Gateway
- Amazon Virtual Private Cloud (VPC)
- VM Import/Export



Amazon Web Services, Inc.

Annex to certificate 2013- 009

Locations in scope:

- AWS Corporate Headquarters: Seattle, Washington
- Data center locations which house hardware used to deliver the services (including the Amazon GovCloud (US) region):
 - Melbourne, Australia
 - Sydney, Australia
 - Rio de Janeiro, Brazil
 - São Paulo, Brazil
 - Marseille, France
 - Paris, France
 - Frankfurt, Germany
 - Hong Kong
 - Chennai, India
 - Mumbai, India
 - Dublin, Ireland
 - Milan, Italy
 - Osaka, Japan
 - Tokyo, Japan
 - Amsterdam, Netherlands
 - Warsaw, Poland
 - Manila, Philippines
 - Singapore
 - Seoul, South Korea
 - Madrid, Spain
 - Stockholm, Sweden
 - Taipei, Taiwan
 - London, United Kingdom
 - California, United States
 - Florida, United States
 - Georgia, United States
 - Indiana, United States
 - Missouri, United States
 - New Jersey, United States
 - New York, United States
 - Oregon, United States
 - Texas, United States
 - Virginia, United States
 - Washington, United States

The ISMS mentioned in the above scope is restricted as defined in the ISMS Scope Statement, version 2014.02 approved on October 13th, 2014 by the Compliance Program Manager for Amazon Web Services, Inc.

3/3 *This Annex (edition: November 4, 2014) is only valid in connection with certificate 2013-009.* DIGITAL COPY

4.3.16 Tab 10 — Sample Statement of Work (SOW)

The Vendor should submit a Sample Statement of Work in TAB 10. This Sample Statement of Work will provide a starting point for drafting the final Statement of Work that will be included in the Contract with the Awarded Vendor as part of contract execution. The Sample Statement of Work should include a description of the roles and responsibilities for each of the services requested in this RFP in accordance with the Vendor's proposed project plan and methodology, and descriptions of all deliverables to be provided.

The Sample Statement of Work (SOW) identifies the tasks required for the implementation of the ROW Management System and is based on Delasoft's current understanding of the requirements and Delasoft's previous experience with similar engagements.



STATEMENT OF WORK

West Virginia Department of Transportation

ROW Management System

September 28, 2021

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Introduction

Delasoft is pleased to partner with West Virginia Department of Transportation (WVDOT) for a successful implementation of a ROW Management System for the Division of Highways. This Statement of Work (SOW) identifies the tasks required for the implementation of the System for the State of West Virginia "State" and is based on Delasoft's current understanding of the requirements and Delasoft's previous experience with similar engagements.

The following work plan details the effort required from both Delasoft and WVDOT's Project Team to complete a successful implementation. The services provided under this SOW include project management, data migration, system testing, training, and implementation assistance.

The professional services to be included are:

Project Management and Administration – Delasoft will assign a Project Manager to assist WVDOT with the implementation of a ROW Management System, including conducting a project Kick-Off Meeting; developing and managing the implementation schedule; managing Delasoft resources and deliverables; conducting regular progress meetings, and providing regular project status reports.

Business Process Review – WVDOT has completed and documented the business requirements in a comprehensive Requirement Specifications document, identifying WVDOT's business process for its business processes. Delasoft will obtain and review this document before a final meeting with both WVDOT and Delasoft following the Project Kick-Off Meeting to discuss any questions and document outstanding configuration/customization needed to meet WVDOT's requirements to ensure full functionality and capabilities of the implemented ROW Management System. It is assumed that either the documented requirements or the subsequent review and discussion will have detailed information on the various other downstream applications that will be interfaced with prior to configuration/customization.

Technical Documentation – Delasoft will provide WVDOT with our standard technical documentation including installation guides, user manuals and training aides. Delasoft will update and review final documentation after the implementation/configuration to ensure the documents correctly support the final functionalities of the application and WVDOT environment.

Configuration/Customization/System Testing – Delasoft will configure the system as per WVDOT signed-off requirements and perform full system testing to ensure quality.

Installation assistance (As necessary) – Delasoft technical staff will be available WVDOT technical staff remotely to assist and/or answer questions regarding the installation of the software on WVDOT servers.

Interfaces configuration – Delasoft will provide interface configuration services to configure the installed system interfaces.

Data Migration – Delasoft will provide data migration services to convert existing databases and data stores to the new system. The process will begin with the analysis of the data to identify systems and data relevant to the project. The identified data is extracted from the source systems and undergo analysis for data consistency, correctness, and missing or invalid data. The plan will include analyzing, extraction, data cleansing, data migration and validation. Any ETL or other tools/scripts to be used are to be determined after data analysis.

Training – Delasoft will provide System Administration and End-user Training as part of the implementation. Delasoft will provide on-site training to appropriate WVDOT ROW personnel.

Production Cutover – Delasoft will provide support during production cutover for a smooth transition to the ROW Management System.

Implementation Work Plan

The following Work Breakdown Structure (WBS) represents the services necessary to implement the ROW Management System for WVDOT. The proposed project plan assumes that Delasoft will provide instruction and direction to WVDOT during the implementation with the assistance and cooperation of WVDOT's Project Team.

Delasoft recommends WVDOT appoint a Core Project Team for the implementation with representatives from all functional or operational areas of WVDOT's business pertinent to the HBA processes. This core group must have the authority and charter to make appropriate decisions regarding the implementation. The core group representatives should have complete knowledge and familiarity with WVDOT's operations and objectives and will form most of the cutover team later in the project.

Delasoft will commence the project upon receiving a mutually signed finalized contract from WVDOT.

WBS 01.0 PROJECT KICK-OFF

The Project Kick-off and planning includes:

- Assembling and reviewing Project materials
- Conducting a Project Kick-Off Meeting
- Developing the Project Plan

Delasoft shall schedule and facilitate a Project Kick-Off Meeting. The Project Kick-Off Meeting will provide an orientation for the WVDOT core project team that is responsible for the decision-making. After completing this session, the project team will have an understanding of the implementation process and will be prepared to start the project. The Project Kick-Off Meeting will be conducted on-site at WVDOT.

This meeting is typically 1 day and includes detailed discussion and review of the following topics:

Review of the project plan with a go-live date no later than August 2022 for the ROW MANAGEMENT SYSTEM

- Orientation with ROW MANAGEMENT SYSTEM
- System implementation steps
- Review of contract deliverables

Delasoft shall develop a Project Plan. At a minimum, the Project Plan will contain the following elements:

- Delasoft's project team organization and reporting relationships
- Key project staff and team member contact information
- Delasoft's project delivery approach
- Project risks and plan for managing risks
- Delasoft's procedures for implementing, managing, and controlling the overall project

WBS 01.0 Deliverables

- Agenda – 5 days prior to the Kick-Off Meeting
- Minutes – 5 days from completion of the Kick-Off Meeting
- Updated Project Schedule – 5 days from completion of the Kick-Off Meeting
- Delasoft Project Management Plan - 20 days of NTP

WBS 02.0 SYSTEMS ANALYSIS AND BUSINESS PROCESS DESIGN

Delasoft will conduct a joint review session with WVDOT project team members to review Right-of-way Requirements Matrix (RRM). Delasoft will visit on-site for JAD sessions. The group shall discuss gaps between the Delasoft's Web-based/GIS Product and requirements defined in the RRM documentation, including details of the interface requirements with WVDOT downstream applications.

A joint review session will include the following topics:

- Demonstration of the Web-based/GIS Product functionalities
- Discussion with WVDOT business users on:
 - functionalities
 - gaps in functionalities and mitigation strategies
 - data to be migrated to the new system
 - integration requirements
- Discussion with WVDOT IT on infrastructure requirements

Delasoft will develop a Technical Installation Guide with that contains the following minimum elements:

- Application Network Architecture
- Application database installation, configuration, and connection guide
- Web application installation, configuration, and connection guide
- Compliant with the WVDOT Technology Standard

Delasoft will develop the System Requirements Specifications (SRS) that will contain the following minimum elements:

- Information gathered during the JAD sessions
- Mapping of Right-of-way Requirements Matrix to the application
- Description of Right-of-way Requirements Matrix, that require customized application configuration

Delasoft will reassess project scope, schedule, and tasks at the end of the JAD session when the documents for WBS 2.0 are completed. If needed, the parties shall prepare and submit an amendment to incorporate the needs found during the JAD sessions not documented in this contract.

Preconditions

- WBS 01.0 Completed

WBS 02.0 Deliverables

- Updated project schedule 5 days from completion of the session
- Technical installation guide
- Configuration specifications for the system requirements in Exhibit J

WBS 03.0 ENVIRONMENT CONFIGURATIONS

Delasoft will assist WVDOT in configuring the servers in preparation for the installation of the ROW MANAGEMENT SYSTEM. This task may be performed to coincide with the planned deployment dates for the development, test and production environments, respectively. Each environment must be set-up and configured per the guidelines within the Technical Installation Guide and per the WVDOT Technical standards.

The following three sub-tasks will be specified in the detailed project schedule:

- WBS 03.1 - Configuration of the development environment
- WBS 03.2 - Configuration of the test environment
- WBS 03.3 - Configuration of the production environment

Preconditions

- WBS 02.0 Completed
- Server procured by WVDOT and made available for configuration

WBS 03.0 Deliverables

- Configured server environments ready for the installation of the ROW MANAGEMENT SYSTEM software

WBS 04.0 SOFTWARE CONFIGURATION

Delasoft will configure the ROW MANAGEMENT SYSTEM in compliance with the configuration specifications completed in WBS 02.0 based on the requirements outlined in Right-of-way Requirements Matrix configured to meet the requirements outlined.

Preconditions

- WBS 02.0 Completed

WBS 04.0 Deliverables

- Configured Software
- Updated System Requirements Specification Document
- Enhancements and modifications
- Automated Interfaces
- Custom forms
- Custom reports
- Custom workflow configuration

WBS 05.0 DATA MIGRATION ANALYSIS

Delasoft will analyze the existing legacy data, develop the initial migration strategy, provide the data migration tool, notify WVDOT on any data issues and validate the system with the migrated data. Delasoft will discuss data issues with WVDOT to derive a plan of action on data cleansing or modification to cleanse data with issues. This process may involve modification of the data migration strategy. Delasoft will provide Data Migration Tool and support the Data Migration Tool through the implementation services.

Delasoft will develop a Data Migration Strategy that contain at a minimum the following elements:

- A guideline on how the data is to be migrated over to the new application
- A mapping of the legacy data elements to the new application

The Data Migration Tool will migrate the data used by the business, within various sources, to the new application.

Preconditions

- WBS 02.0 Completed

WBS 05.0 Deliverables

- Data Migration Strategy
- Data Migration Tool

WBS 06.0 SYSTEM CONFIGURATION TESTING

Delasoft will conduct extensive system testing at its end to test the configured system functionality and fix any problems that may occur in order to satisfy the WVDOT requirements.

Delasoft will develop a Testing Results Report that contain at a minimum the following elements:

- Elements of the system were tested
- Results of the testing
- Any required updates completed, and planned mitigations for test failures

- Business Team input on the severity and priority level of the test failures

Preconditions

- WBS 04.0 Completed

WBS 06.0 Deliverables

- Configured and Tested System
 - Unit testing
 - System testing
 - Integration testing
- Test Results Report

WBS 07.0 INSTALLATION AND CONFIGURATION IN DEVELOPMENT ENVIRONMENT

WVDOT will notify Delasoft to deploy the system in the development environment. Delasoft will package the configured software and send it to WVDOT. Delasoft will assist remotely to install the system in the WVDOT development environment.

Delasoft will provide the following for the installation within the development environment:

- Update technical guide with any changes made to the environment or installation guidelines
- Application installed on WVDOT configured servers

Preconditions

- WBS 03.1 Completed
- WBS 06.0 Completed
- WVDOT notice to deploy the system in the development environment

WBS 07.0 Deliverables

- ROW MANAGEMENT SYSTEM system installed in the WVDOT development environment
- Updated Technical Installation Guide

WBS 08.0 INTERFACE CONFIGURATION

Delasoft shall configure the installed system in the WVDOT development environment to interface with the various downstream applications as identified in the system requirements document. In the development environment, these interfaces will use the development version of the downstream applications (if available), the User Acceptance Testing (UAT) version or versions.

All the interface configurations must contain at a minimum the following elements:

- Identify specifications for integration including identification of the events (or schedules) that will trigger the transfer of data and information between systems
- Mapping of data and information between systems
- Determine the optimal frequency and synchronization specifications of data that is exchanged and document why and how it is done
- Document security specifications for interaction between systems, to ensure the systems function correctly within the WVDOT environment

Preconditions

- WBS 07.0 Completed

WBS 08.0 Deliverables

- ROW MANAGEMENT SYSTEM system interfaces configured and connected to HUB
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to wvOASIS
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to Bentley ProjectWise
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to Railroad Crossing Inventory
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to BRIM
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to CAD environment
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to Email (Microsoft Exchange)
- ROW MANAGEMENT SYSTEM system interfaces configured and connected to ESRI/GIS

WBS 09.0 DATA MIGRATION IN DEVELOPMENT ENVIRONMENT

Delasoftware will assist WVDOT to perform data migration in the development environment as determined by WVDOT.

Delasoftware shall provide:

- Assistance over the phone and network with data migration into the new application
- Assistance migrating data to the new system
- Support to WVDOT with debugging and fixing issues with migration tool and the data set
- Updates to the migration tool to mitigate issues
- Updated migration strategy with any updates as a result of the migration

Preconditions

- WBS 05.0 Completed

WBS 09.0 Deliverables

- Data Migration Services

- Updated Data Migration Strategy and Tool

WBS 10.0 WVDOT SYSTEM ADMINISTRATION TRAINING

Delasoftware will provide on-site training to WVDOT in a classroom environment suitable for training. WVDOT will be responsible for providing and preparing the training facility. Delasoftware will provide one (1) staff member to be on-site for a 2-day administrator training session.

Delasoftware will conduct administration training for installing, supporting and maintaining the ROW MANAGEMENT SYSTEM application. The training will target WVDOT application administrators and IT support staff.

Delasoftware will develop an Administrator Help Manual and Training.

The Administrator Help Manual and Training will contain at a minimum the following elements:

- Complete System overview
- System features including logging in, dashboard, help menus, notifications, and system summary
- Permit entry and management
- Workflows, business rules, and process management
- Reports and template management
- User access and role permissions management

Delasoftware will develop a Draft User Help Manual and Training. The User Help Manual and Training must contain at a minimum the following elements:

- Role based system overview
- System features including logging in, dashboard, help menus, notifications, and system summary
- Permit entry and management
- Role based workflows, business rules, and process management
- Reports and template usage

Preconditions

- WBS 08.0 Completed
- ROW MANAGEMENT SYSTEM Administrator training material available

WBS 10.0 Deliverables

- Draft ROW MANAGEMENT SYSTEM Administrator Help Manual
- Draft ROW MANAGEMENT SYSTEM User Help Manual
- Draft ROW MANAGEMENT SYSTEM user training material
- ROW MANAGEMENT SYSTEM administrators trained to administer the ROW MANAGEMENT SYSTEM system
- Updated technical architecture document

WBS 11.0 WVDOT DEVELOPMENT ENVIRONMENT TESTING

WVDOT will test the system in the development environment and will report any issues or discrepancies to Delasoft for resolution. During testing, WVDOT will create the User Acceptance Testing (UAT) plan and business test cases for UAT.

Delasoft shall provide a development test report which must contain at a minimum the following elements:

- Elements of the system tested
- Results of the testing
- Any required updates completed, and planned mitigations for test failures

Delasoft shall update the Technical Installation Guide with any changes made to the environment or installation guidelines.

Preconditions

- WBS 05.0 & 06.0 Completed

WBS 11.0 Deliverables

- Development Environment Test Report Response
- Updated Technical Installation Guide

WBS 12.0 WVDOT DEPLOYMENT AND CONFIGURATION IN TEST ENVIRONMENT

Upon completion of testing, WVDOT will notify approval to deploy the system in the WVDOT test environment. Delasoft shall remotely assist WVDOT's IT staff with installing the system in the WVDOT UAT environment. The system will include the initially migrated data and any configuration changes, as a result of testing in the development environment. The interfaces must also be configured in the test environment in preparation for UAT. Delasoft will take a hands-off approach to UAT deployment and assist only if necessary. This approach is designed to give the WVDOT system administrators experience in installing the ROW MANAGEMENT SYSTEM software.

Delasoft shall provide:

- Update technical guide with any changes made to the environment or installation guidelines
- Support the application installed and configuration on WVDOT configured TEST servers

Preconditions

- WBS 03.2 & 11.0 Completed
- WVDOT approval to install in test environment

WBS 12.0 Deliverables

- ROW MANAGEMENT SYSTEM system installed in the WVDOT test environment
- Updated Technical Installation Guide

WBS 13.0 DATA MIGRATION IN TEST ENVIRONMENT

Delasoft will assist WVDOT remotely to perform data migration in the test environment. Delasoft will assist WVDOT with any debugging and fixing that may be needed.

Delasoft will provide:

- Assistance over the phone and network in the migration of the data into the application
- Assistance migrating data to the new system
- Updates to the migration tool to mitigate issues
- Updated migration strategy with any updates as a result of the migration

Preconditions

- WBS 12.0 Completed
- Data sources are readied

WBS 13.0 Deliverables

- Data Migration Services
- Updated Data Migration Strategy and Tool

WBS 14.0 WVDOT END-USER TRAINING

The Delasoft will develop and deliver training to WVDOT end users. Upon completion of training, each WVDOT trainee will have the skills in the overall use of ROW MANAGEMENT SYSTEM and strong knowledge of how to use the application in his or her specific job function or area of expertise. Delasoft will provide (1) staff member for up to (4) days of on-site training to WVDOT lead business users in a classroom environment suitable for training. WVDOT will be responsible for providing and preparing the training facility.

The End User Training must contain at a minimum the following elements:

- System overview
- System features including logging in, dashboard, help menus, notifications, and system summary
- Permit entry and management

- Workflow review and approvals

Preconditions

- WBS 13.0 Completed
- Final ROW MANAGEMENT SYSTEM Administrator Help Manual
- Final ROW MANAGEMENT SYSTEM User Help Manual
- Final ROW MANAGEMENT SYSTEM user training material

WBS 14.0 Deliverables

- Training plan outline due 5 days prior to classroom training
- Completion of classroom training

WBS 15.0 WVDOT USER ACCEPTANCE TESTING

Delasoft understands that UAT is a crucial step in the testing process. In this phase, trained WVDOT end users will test the application. UAT must be based on real-world scenarios relevant to the end- user before 'accepting' the application. This type of testing gives the end users the confidence that the application being delivered to them meets their requirements. The WVDOT end user will use/follow the finalized UAT plan and business test cases created by the WVDOT team. Delasoft will provide support in WVDOT UAT and will provide a test report response at the end of UAT.

The test report response must contain at a minimum the following elements:

- Elements of the system were tested
- Results of the test
- Any required updates completed, and planned mitigations for test failures

Preconditions

- WBS 14.0 Completed
- UAT Plan signed off
- Test Cases reviewed and finalized
- Test Data migrated in the test environment and updated, if needed

WBS 15.0 Deliverables

- Log of defects and any actions taken by Delasoft during UAT
- UAT Test Report Response

WBS 16.0 PRODUCTION DEPLOYMENT PLAN

Delasoft and WVDOT will jointly develop a Production Deployment Plan to describe how the ROW MANAGEMENT SYSTEM will transition to the WVDOT production environment.

The Production Deployment Plan must include:

- The deployment schedule
- The deployment sequence
- Identification of any configuration changes required in the production environment
- A catastrophic failure contingency plan or a rollback strategy

Preconditions

- WBS 12.0 & 13.0 Completed

WBS 16.0 Deliverables

- Production Deployment Plan

WBS 17.0 FINAL DATA MIGRATION

Delasoft will run the migration scripts against the legacy data one final time to migrate the data into the production database.

Delasoft will provide support remotely and provide:

- Assistance over the phone and network in the migration of the data into the new application
- Assistance migrating data to the new system

Preconditions

- WBS 16.0 Completed

WBS 17.0 Deliverables

- Production data migrated to production environment

WBS 18.0 WVDOT DEVELOPMENT AND CONFIGURATION IN PRODUCTION ENVIRONMENT

Following the production deployment plan, WVDOT will deploy and configure the ROW MANAGEMENT SYSTEM into the production environment. Delasoft will be available to advise and guide the installation team.

Delasoft will provide:

- Assistance over the phone and network in installing the application
- Support WVDOT in the troubleshooting issues with the installation on the PROD servers

Preconditions

- WBS 17.0 Completed

WBS 18.0 Deliverables

- Provide assistance remotely as needed for the installation of ROW MANAGEMENT SYSTEM in the WVDOT production environment.

WBS 19.0 PRODUCTION CHECKS/CUTOVER

Upon completion of all prior tasks, production cutover of the system will be performed by WVDOT with assistance from Delasoft. WVDOT will perform some basic checks of the system before giving the green light for go-live at which point the system will be proclaimed to be live in production and available for production use. Delasoft will also provide a final configuration document.

Preconditions

- WBS 18.0 Completed

WBS 19.0 Deliverables

- Log of defects and any actions taken by Delasoft during production verification
- Final configuration document

WBS 20.0 CLOSEOUT, MAINTENANCE CUTOVER & FIRST YEAR OF MAINTENANCE

The final task is the actual Closeout & Maintenance Cutover. Delasoft will complete the production cutover and ensure the ROW MANAGEMENT SYSTEM is effectively running “live” in the WVDOT environment.

Preconditions

- WBS 19.0 Completed

WBS 20.0 Deliverables

- Provision of Warranty support for the Post-Implementation Warranty Period
- Delasoft Final Sign-off Post-Warranty
- First year of maintenance support starts after Delasoft final sign-off post-warranty
- First year of service packages and platform upgrades must be included in the Maintenance and Support Service.

WBS 21.0 MAINTENANCE AND SUPPORT YEARS 2 THROUGH 5

Delasoft will provide annual system maintenance and support based on contract

Preconditions

- WBS 20.0 Completed
- Previous Year of Maintenance and Support Completed
- Invoice for Yearly Maintenance and Support



4.3.17 Tab 11 — Requirements Matrix Responses

Delasoft, Inc. has included as Attachment A a printed copy of the completed Right-of-Way, Utility Relocation and Railroad Agreements System Requirements Matrix.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2	ROW-001	1	Right-of-Way	General	Provide the ability to support the management and tracking of the full lifecycle of the WVDOT right-of-way acquisition process including: <ul style="list-style-type: none"> - project set-up; - parcel identification and set-up; - management of acquisition activities; - appraisals; - negotiation; - condemnation; - relocation; and - property management.
3	ROW-002	1	Right-of-Way	General	Provide the ability to support the management and tracking of the WVDOT right-of-way acquisition process according to the WVDOT right-of-way acquisition procedures manual and the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.
5	ROW-003	1	Right-of-Way	General	Provide the ability to support the various types of right-of-way acquisitions, including but not limited to: <ul style="list-style-type: none"> - fee-simple; - permanent easement; - temporary easement; - functional replacement; - Federal Land transfer; and - the cost of cure for property damages during construction.
6	ROW-004	1	Right-of-Way	General	Provide the ability to support management and tracking of utility relocation activities required for transportation projects according to the WVDOT utility relocation manual. Please refer to Utility Relocation and Railroad tab for additional detailed requirements.
7	ROW-005	1	Right-of-Way	General	Provide the ability to support management and tracking of railroad agreements required for transportation projects. Please refer to Utility Relocation and Railroad tab for additional detailed requirements.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
8	ROW-006	1	Right-of-Way	General	Provide the ability to integrate WVDOT right-of-way and utility relocation functions with other relevant WVDOT and wvOASIS ERP functions, including but not limited to: <ul style="list-style-type: none"> - HUB, - wvOASIS Advantage Fixed Assets, - Transportation Asset Inventory, - ProjectWise, - BRIM, - ESRI GIS, - Facilities Management, - wvOASIS Accounts Payable, - wvOASIS General Ledger, - wvOASIS Human Resource Management, and - wvOASIS Procurement.
9	ROW-007	1	Right-of-Way	Workflow	Provide the ability to support the definition of workflows to manage electronic review and approval of title information, appraisals, acquisitions, negotiations, relocation of displacees, utility relocation, railroad agreements, etc. These workflows will define and electronically route users through the steps for completing the defined work activities and obtain the necessary approvals for the various right-of-way acquisition, utility relocation and railroad agreement business processes.
10	ROW-008	1	Right-of-Way	Workflow	Provide the ability to define and generate workflows for each of the steps in a business process based on user-defined business rules.
11	ROW-009	1	Right-of-Way	Workflow	Provide the ability to utilize a project specific distribution list to manage the required electronic review and approval for each project.
12	ROW-010	1	Right-of-Way	Workflow	Provide the ability to report and display the status of a workflow process (i.e., steps approved, who needs to review next, and so on) in a summary/dashboard format. For example: A team lead or other manager may need to review the overall process status. This may also be used for performance monitoring.
13	ROW-011	1	Right-of-Way	Workflow	Provide the ability to trigger a workflow based on user-defined business events including completion of activities in the system or the uploading of various documents (e.g., uploading an appraisal file to the system).

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
14	ROW-012	1	Right-of-Way	Workflow	Provide the ability to enter and support comments added during the workflow at each approval step for internal use. These comments should progress with the workflow to the next approver identifying the person who made the comment.
15	ROW-013	2	Right-of-Way	Workflow	Provide the ability to support workflow customization for a specific project in each of the workflow steps. The customized workflow shall be done only by authorized WVDOT users. That is, modified/different workflows may be required for appraisal, acquisition, and relocation processes for the same project and the workflow may be different for a project on which work is performed by internal staff versus consultants.
16	ROW-014	2	Right-of-Way	Workflow	Provide the ability to assign WVDOT staff members or consultants working on a project to a workflow individually or by group for each project and for specific workflows.
18	ROW-015	2	Right-of-Way	Workflow	Provide the ability to allow authorized users to define the target time for completing a specific workflow step and the entire workflow process. That is, WVDOT may want to establish a target objective that all appraisal reviews are completed within a certain number of days of the appraisal being uploaded to the system.
19	ROW-016	2	Right-of-Way	Workflow	Provide the ability to notify users regarding the designated "approve by" date upon their being assigned a workflow step to complete.
20	ROW-017	2	Right-of-Way	Workflow	Provide the ability to track and display the total elapsed time from the start to end of a workflow process, as well as, the ability to display time remaining to action a workflow step and complete the entire workflow process based on the user-defined timelines for the individual process step and the entire process workflow.
21	ROW-018	2	Right-of-Way	Workflow	Provide the ability to alert an individual assigned to a workflow step when an "approve by" date associated with completion of the workflow step has passed or is within a user-definable timeframe for completion. The method of alert is to include both an email and a notification within the right-of-way solution.
21	ROW-019	2	Right-of-Way	Workflow	Provide the ability to allow an authorized user to obtain a report of pending workflow steps or workflows which have not been completed within the targeted timeline. This report should have the ability to be filtered by process area (appraisal, negotiation, displacee relocation, utility relocation, and so forth) and by project.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
22	ROW-020	1	Right-of-Way	Workflow	Provide the ability to create a monthly management report with summary statistics concerning performance against target milestones for completing work steps and workflow processes for the month and fiscal year to date. This report should have the ability to be filtered by process area (appraisal, negotiation, displacee relocation, utility relocation, and so forth) and by project.
23	ROW-021	1	Right-of-Way	Workflow	Provide the ability to generate a report of all missed dates and delayed approvals for the month or fiscal year to date. This report should have the ability to be filtered by process area (appraisal, negotiation, displacee relocation, utility relocation, and so forth) and by project.
24	ROW-022	1	Right-of-Way	Workflow	Allow for electronic signatures to approve all system actions and the generation of all required notification letters. This electronic signature should be based on the user authenticating themselves to the system through their login information.
25	ROW-023	1	Right-of-Way	GIS Integration	Provide a full-featured GIS viewer within the right-of-way and utilities function which integrates with WVDOT's existing ESRI ArcGIS environment.
26	ROW-024	1	Right-of-Way	GIS Integration	Provide the ability for users to utilize a GIS viewer within the right-of-way solution to view all project information such as the proposed alignment, ROW boundary, parcels, ownership, etc., including the ability to select a parcel and drill down into attribute information available.
27	ROW-025	1	Right-of-Way	GIS Integration	Provide the ability to display one or more parcels or required utility relocations on a project meeting specific user-defined criteria on a map from within the GIS viewer in the right-of-way software solution.
28	ROW-026	1	Right-of-Way	GIS Integration	Provide the ability to spatially map a specific parcel or utility relocation/railroad agreement or set of parcels or utility relocations/railroad agreement that meets a set of user-defined criteria from within the right-of-way and utilities functions of the right-of-way solution. While looking at a list of parcels or utility relocations or detailed information about an individual parcel or utility relocation, the user must be able to select "map" and see the location of the parcel or utility relocation displayed spatially by a GIS viewer within the right-of-way solution.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
29	ROW-027	1	Right-of-Way	GIS Integration	Provide the ability to enter a set of selection criteria for any pre-defined report and request that the results be displayed spatially by a GIS viewer within the right-of-way solution.
30	ROW-028	1	Right-of-Way	GIS Integration	Provide the ability to enter a set of selection criteria for an ad-hoc query of parcel or utility relocation/railroad agreement information and request that the results be displayed spatially by the GIS viewer within the right-of-way and utilities function.
31	ROW-029	1	Right-of-Way	GIS Integration	Provide the ability to select a parcel or utility relocation/railroad agreement from a map in a GIS viewer within the right-of-way and utilities functions in the right-of-way solution and drill down to see detailed information about the parcel or utility relocation within the right-of-way solution.
32	ROW-030	1	Right-of-Way	GIS Integration	Provide the ability for the user to select an area of interest from within WVDOT's GIS application and request that all parcels, utility relocations or railroad agreements in that area meeting certain user-defined criteria stored in the right-of-way and utilities function be spatially displayed on a map within WVDOT's GIS solution.
33	ROW-031	1	Right-of-Way	GIS Integration	Provide the ability to select one or more parcels, utility relocations or railroad agreements from a map within an area displayed in the WVDOT GIS application and drill down to see the detailed information about the specific parcel or parcels within the right-of-way solution.
34	ROW-032	1	Right-of-Way	Forms Management	Provide the ability to define, store and auto-populate templates for various forms and letter templates which are used in the various right-of-way/utilities/railroads processes. The system should have the ability to auto-populate, but also have the ability for manual entry based on user-specified parameters (e.g., project name, parcel, property owner, utility company, utility company contact, and so on).
35	ROW-033	1	Right-of-Way	Forms Management	Provide the ability to create various pre-defined WVDOT forms and notification letters based on user-defined triggers or business events.
36	ROW-034	1	Right-of-Way	Forms Management	Provide the ability to generate letters with the appropriate letterhead/logo and contact information based on the location of the assigned appraiser and/or right-of-way agent. Depending on the assigned team member, this would be by central office, district office, or consultant.
37	ROW-035	1	Right-of-Way	Forms Management	Provide the ability to store the date each letter or form was requested and generated by the system and the various parameters included in the letter to allow re-generation within the right-of-way system of a copy of the letter if required.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
38	ROW-036	1	Right-of-Way	Forms Management	Integrate with ProjectWise to store the actual letter generated by the system..
39	ROW-037	1	Right-of-Way	Forms Management	Integrate with ProjectWise to allow a user to obtain a list of forms/document from within the right-of-way solution that are stored in ProjectWise meeting certain user-defined criteria and then support retrieval of each letter/form selected by the user for viewing/printing.
40	ROW-038	1	Right-of-Way	Project Information	Integrate with the WVDOT HUB application to establish/open the right-of-way and utilities phase of a construction project, bringing available project identification and attribute information from HUB and populating the right-of-way solution.
	ROW-039	1	Right-of-Way	Project Information	Integrate with the WVDOT HUB application to obtain updates to project information.
42	ROW-040	1	Right-of-Way	Project Information	Provide the ability to allow for update based on user-defined business rules of certain right-of-way, utility relocation and railroad related project information in the right-of-way and utilities solution, while restricting the ability to update most project information for which HUB is the system of record.
43	ROW-041	1	Right-of-Way	Project Information	Provide the ability to capture and store right-of-way acquisition cost estimates for a project. These cost estimates should be able to be entered project-level or based on a roll-up of cost estimates for the individual parcels.
44	ROW-042	1	Right-of-Way	Project Information	Provide the ability to maintain a history of right-of-way cost estimates for a project. All changes should be displayed below the current cost estimate, such that details can be viewed by clicking on/selecting the old estimates. Access is to be restricted based on project and user's role and responsibility.
45	ROW-043	1	Right-of-Way	Project Information	Integrate with WVDOT HUB and/or wvOASIS to obtain and support tracking of actual acquisition costs for a project based on acquisition activity.
46	ROW-044	1	Right-of-Way	Project Information	Provide the ability to export project status updates from the right-of-way software solution into HUB to update project information that has been added/modified within the right-of-way acquisition function.
47	ROW-045	1	Right-of-Way	Project Information	Provide the ability to export information from the right-of-way solution to HUB to update milestone dates based on changes to dates for individual parcels and so on, which may impact overall dates in the right-of-way phase.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
48	ROW-046	1	Right-of-Way	Project Information	Provide the ability to define and maintain multiple distribution lists of project participants; these distribution lists will include names, email addresses, and agency unit or organization information (WVDOT HQ/District, company name for consultants, etc.). These distribution lists will be specific for each project.
49	ROW-047	1	Right-of-Way	Project Information	Provide the ability to integrate with the wvOASIS HRM system to support/validate the creation and maintenance of a project specific distribution list.
50	ROW-048	1	Right-of-Way	Project Information	Provide the ability to add and maintain non-employee resources such as consultant appraisers and right-of-way agents to be added to a project-specific distribution list.
51	ROW-049	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display multiple potential parcels for acquisition on each project.
52	ROW-050	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display legal descriptions of parcels and other supplemental description information.
53	ROW-051	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display parcel location information in various formats (examples: geospatial coordinates, physical address, station & offset)
54	ROW-052	1	Right-of-Way	Parcel Information	Provide the ability to locate a parcel using multiple coordinate systems (address, geospatial coordinates, etc.).
55	ROW-053	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display parcel ownership information including owner names, spouses of owners, address, daytime/evening phone numbers (home, work, and mobile), email address, and the name in which taxes are assessed.
56	ROW-054	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display identification of multiple ownership interests in a parcel (e.g., surface rights, mineral rights, and so forth).
57	ROW-055	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display liens including deeds of trust, vendor liens, judgment liens, etc.
58	ROW-056	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display title research reports in the system.
59	ROW-057	1	Right-of-Way	Parcel Information	Provide the ability to integrate with ProjectWise to link to, store and display title research reports.
60	ROW-058	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display other parcel information including type of property (residential/commercial); types of utilities; and whether there are cemetery burial sites, underground storage or septic systems on the property, and a description of these if they are on the property.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
61	ROW-059	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display information about oil, gas or coal leases including contact information for the lessee and the date of the expiration of the lease.
62	ROW-060	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display parcel tenant information including name and contact information, whether there is a lease, the beginning and ending dates of the lease, whether there is an option to renew, whether there are any tenant owned improvements and a description of these improvements.
63	ROW-061	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display the method by which ownership of the property was obtained by the current owner.
64	ROW-062	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display the grantor; grantee; date of deed; deed book and page; declaration of value; magisterial district; tax map and parcel if the property was obtained by the current owner by deed.
65	ROW-063	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display from whom property was inherited; the will book and page; the executor of the estate; the executor's contact information; the previous deed including deed book and page and date the deed was transferred for property which was inherited and for which there was a valid will.
66	ROW-064	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display decedent's date and place of death and a list of heirs and contact information in scenarios where the property was inherited and there is no valid will.
67	ROW-065	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display potential parcel displacee (relocation) information.
68	ROW-066	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display other free-form descriptive information about the parcel.
69	ROW-067	1	Right-of-Way	Parcel Information	Provide the ability to integrate with the WVDOT CAD environment when a parcel is initially set-up to import the ownership index, right-of-way plan sheets, right-of-way map data, and construction plan sheets and store and link this data to the appropriate parcel.
70	ROW-068	2	Right-of-Way	Parcel Information	Provide the ability to integrate with the WVDOT CAD environment to support automatic update of parcel data based on any changes to the right-of-way map, right-of-way map data and construction plans after the parcel has been defined in the right-of-way and utilities function.
71	ROW-069	2	Right-of-Way	Parcel Information	Provide the ability to maintain all work that has been done on a parcel prior to the parcel being revised due to plan modifications. For example, a parcel may be modified due to ownership changes, area changes, or property type changes from residential to commercial, etc.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
72	ROW-070	2	Right-of-Way	Parcel Information	Provide the ability to integrate with the WVDOT CAD environment to allow linking to and displaying source data files associated with a parcel within the WVDOT CAD environment.
73	ROW-071	1	Right-of-Way	Parcel Information	Provide the ability to search for any parcel based on various user-defined criteria such as project, parcel location, owner, displacees, assigned WVDOT staff, etc.
74	ROW-072	1	Right-of-Way	Parcel Information	Provide the ability to split a parcel into multiple sub-parcels to define property interests being acquired and record tenant-owned interests to the parcel. For example, a parcel may have a restaurant, a mall, and/or an office building on it, requiring relocation payments to multiple tenants.
75	ROW-073	1	Right-of-Way	Parcel Information	Provide the ability to identify sub-parcel information for each project along with the type of interest being acquired (e.g., full ownership, temporary construction servitude, permanent drainage servitude, permanent ROW servitude, etc.). This should also identify and link to parcel tenants interest (e.g., lease hold interest).
76	ROW-074	1	Right-of-Way	Parcel Information	Provide the ability to assign responsibility for each parcel or various functions for each parcel (such as appraisal and negotiation) to specific team members from the list of team members working on a particular project.
77	ROW-075	1	Right-of-Way	Parcel Information	Provide the ability to enter, store, and display track cost estimates for the acquisition of a parcel such as the types of costs (acquisition, relocation, etc.). This includes versioning, i.e., the ability to modify an existing cost estimate and retain the original version. All changes should be viewable along with the current cost estimate, such that details can be viewed by drilling down into older estimates. Access to this data should be restricted based on project and user role and responsibility.
78	ROW-076	1	Right-of-Way	Appraisal	Provide the ability to assign the appraisal of a parcel to a WVDOT staff member or consultant.
79	ROW-077	1	Right-of-Way	Appraisal	Provide the ability to assign a WVDOT staff member or consultant review appraiser to a parcel.
80	ROW-078	2	Right-of-Way	Appraisal	Provide the ability to notify the assigned staff member or consultant of the appraisal assignment through a system notification and email.
81	ROW-079	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display system appraisal information. This includes all information tied to an appraisal, including parcel, appraisal date, appraiser, valuation, basis for valuation, review appraisers report, etc.
82	ROW-080	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display the history of appraisals performed on a parcel by date.
83	ROW-081	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display changes underlying second and subsequent appraisals (such as changes to parcel size, and so on).

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
84	ROW-082	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display flagging a parcel, or part of a parcel, as a potential uneconomic remnant.
85	ROW-083	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display appraisals prepared and submitted by a property owner.
86	ROW-084	1	Right-of-Way	Appraisal	Provide the ability to integrate with ProjectWise to support storing, linking and displaying all documents associated with an appraisal.
87	ROW-085	1	Right-of-Way	Appraisal	Provide the ability to notify the assigned appraisal reviewer automatically/electronically via a workflow when appraisal information has been entered into the system
88	ROW-086	1	Right-of-Way	Appraisal	Provide the ability to document the review appraisal including the approval or disapproval of the appraisal along with any comments.
89	ROW-087	2	Right-of-Way	Appraisal	Provide the ability to return the appraisal to the original appraiser automatically/electronically when required to address any issues identified by the review appraiser.
90	ROW-088	1	Right-of-Way	Appraisal	Provide the ability to document sign-off on the appraisal by the review appraiser.
91	ROW-089	1	Right-of-Way	Appraisal	Provide the ability to enter, store, and display recommendations for just compensation in the system, along with all applicable information regarding the review (e.g., review sheet, reviewer).
92	ROW-090	1	Right-of-Way	Appraisal	Provide online approval capabilities for authorized users to electronically review and approve just compensation used for initial offer or revised offers.
93	ROW-091	1	Right-of-Way	Appraisal	Provide ability to flag parcels based on appraisal approval as ready for negotiation and send an automatic/electronic email notification and a system notification to the assigned negotiator for a parcel.
94	ROW-092	1	Right-of-Way	Appraisal	Provide ability to monitor and report on the status of appraisals by project (e.g., appraisal pending, appraisal prepared, appraisal approved, appraisal waiting for resubmission, on hold, etc.).
95	ROW-093	1	Right-of-Way	Appraisal	Provide ability to automatically/electronically generate an appraisal summary information sheet based on all appraisal information entered in the system.
96	ROW-094	1	Right-of-Way	Appraisal	Provide ability to track/manage when an extension is granted to the Appraiser or Review Appraiser on a project.
97	ROW-095	1	Right-of-Way	Acquisition-Negotiation	Provide an authorization workflow which utilizes the generated estimates from the Acquisition section to provide a draft authorization request to the Admin Section to initiate the BF-98 process.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
98	ROW-096	1	Right-of-Way	Acquisition-Negotiation	Integrate with HUB to transmit the authorization following review by the Admin section to Programming for final review and approval within HUB. Provide approval from HUB back to the right-of-way solution.
99	ROW-097	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store and display the dates RW3 Plans are submitted to ROW Division. For example, track the initial date RW3 Plans are received from Engineering, track the dates of any RW3 Plan Revisions along with a summary of the revision.
100	ROW-098	1	Right-of-Way	Acquisition-Negotiation	Provide the ability for users to monitor the status of appraisals to determine when preparation activities for the Acquisition may begin.
101	ROW-099	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to assign a right-of-way agent negotiator to each parcel.
102	ROW-100	2	Right-of-Way	Acquisition-Negotiation	Provide the ability to automatically/electronically notify the right-of-way agent or negotiator when parcel assignments are made via the right-of-way solution and email.
103	ROW-101	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to generate a 90-day notification letter to property owner based on request by an authorized user and retain document (including issue date) in the system. This letter will typically be issued/sent by a WVDOT district right-of-way agent.
104	ROW-102	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to generate a 30-day notification letter documenting requirement for property owner to vacate the property based on a request by an authorized user and retain document (including the issue date) in the system. This letter will typically be issued/sent by a district right-of-way agent.
105	ROW-103	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to display and print the WVDOT right-of-way questionnaire, which provides on a single-page formatted information about the parcel including location, owners, mineral rights/leases, tenants and deeds, etc.
106	ROW-104	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a document acquisition and negotiation activities/ log. This includes the ability for a parcel negotiator to enter all acquisition and negotiation information in the right-of-way solution, including times of contact with owner, offers/promises made, acceptance/rejection or counter offer by owner, location of the conversation, in-person, mail, phone, etc.
107	ROW-105	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the sex and ethnicity of the property owner for statistical reporting purposes (i.e., minority, non-minority, and/or female).
108	ROW-106	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the approved valuation for negotiation.
109	ROW-107	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the approved valuation for negotiation if owner retains structures.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
110	ROW-108	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display each negotiating session including key information such as the date, time, place, along with the individuals present.
111	ROW-109	1	Right-of-Way	Acquisition-Negotiation	Provide the ability for a user to enter, store, and display a brief summary of the steps which are performed during WVDOT's acquisition process for a parcel.
112	ROW-110	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a brief summary of the explanation of the full effect of the take.
113	ROW-111	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a record of when an offer has been made for land and improvements.
114	ROW-112	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a record of when an offer has been made to allow owner to retain improvements and appurtenances.
115	ROW-113	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a record of when there has been a counter-offer (if any).
	ROW-114	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the person a right-of-way pamphlet was delivered to and the date provided.
117	ROW-115	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the person a right-of-way relocation brochure was delivered to and the date provided.
118	ROW-116	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the person to whom the copy of the option was delivered to and the date provided.
119	ROW-117	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the person to whom the statement of compensation was delivered to and the date provided.
120	ROW-118	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the replacement housing amount and to whom this amount was given to along with the date it was provided.
121	ROW-119	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the reasons a settlement could not be reached, if this occurs.
122	ROW-120	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display any owner's comments or those of the owner's representative.
123	ROW-121	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display as a free-form text field any other relevant information from the negotiations.
124	ROW-122	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a property owner's response to an offer — acceptance or rejection.
125	ROW-123	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to generate a negotiator's certification based on property owners acceptance of an offer and a request by assigned right-of-way agent.

**WV DOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
126	ROW-124	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to record the amount of a proposed administrative settlement (amount of offer agreed to in excess of documented just compensation) and the basis for the recommendation for the administrative settlement.
127	ROW-125	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to route administrative settlement for approval via workflow based on user-defined business rules. Provide reviewers/approvers with the option to drill down and see specific details concerning the parcel acquisition (appraisal, negotiations record, etc.) as part of their review process.
128	ROW-126	1	Right-of-Way	Acquisition-Negotiation	<ul style="list-style-type: none"> • Provide the ability to store and link to documentation as required by WV DOT business rules as part of the electronic review for administrative settlements. In administrative settlements, a memorandum from the District Right-of-Way Manager detailing justification for settlement must be included as part of the review package. Administrative Settlements must be reviewed and approved by the Right-of-Way Director.
	ROW-127	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the assignment of a closing attorney.
130	ROW-128	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display a scheduled closing date.
131	ROW-129	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to integrate with the wvOASIS accounts payable function to initiate payment request for accepted offer. This should include preencumbrance for acquisition amount against project and project phase. This must include capability to generate multiple warrant requests if property has multiple property owners, trusts, amounts due on mortgage to bank, etc.
132	ROW-130	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to calculate and document a property owner claim for <i>pro-rata</i> share of taxes paid by the property owner on portion of property acquired by WV DOT.
133	ROW-131	1	Right-of-Way	Acquisition-Negotiation	Integrate with the wvOASIS accounts payable function to initiate payment request to reimburse the property owner for their <i>pro-rata</i> share of taxes paid on property acquired by WV DOT. This includes creating the appropriate pre-encumbrance on the project and project phase.
134	ROW-132	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to generate negotiator's progress report for a specific month, or other user-defined period. This report will document assigned parcels by project and parcel number, whether it is a central office or district project, and the status of each parcel including date of deed/option; amount of deed/option; targeted or actual closing date; date of request for condemnation; amount deposited in court; and date of right of entry.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
135	ROW-133	2	Right-of-Way	Acquisition-Negotiation	Provide the ability to automatically/electronically alert and provide notice via email and via the right-of-way solution to the assigned WVDOT project manager and the district right-of-way manager, and other users based on user-defined business rules to flag when parcel acquisition dates are slipping from plan by more than a user-defined set of days or a certain user-defined % of parcels are not acquired.
136	ROW-134	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the completion of a closing process.
137	ROW-135	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the date on which possession is taken on the property.
138	ROW-136	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the date on which keys to structures was collected, and by whom.
139	ROW-137	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display date and time of the ordering and completion of required asbestos inspection were done.
	ROW-138	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the scheduled demolition date and firm performing the demolition.
141	ROW-139	1	Right-of-Way	Acquisition-Negotiation	Provide the ability to enter, store, and display the actual date of completion for demolition.
142	ROW-140	1	Right-of-Way	Acquisition-Negotiation	Integrate with BRIM where required to add property to the BRIM database for insurance purposes. This applies in cases of non-highway use/uneconomic remnant or if a structure is remaining for some period of time.
143	ROW-141	1	Right-of-Way	Acquisition-Negotiation	Integrate with the wvOASIS fixed asset function to add assets as required to the fixed asset register. This applies in cases of non-highway use/uneconomic remnant or if a structure is remaining for some period of time.
144	ROW-142	1	Right-of-Way	Acquisition-Negotiation	Integrate with the ERP transportation asset inventory function to add all non-highway use assets to the facilities register within the transportation asset inventory function. Integration should generate building number based on WVDOT business rules..
145	ROW-143	1	Right-of-Way	Acquisition-Negotiation	Support tracking of the cost of cure to ensure damages payments to a property owner are not subject to taxes. The right-of-way system should first integrate with the wvOASIS accounts payable function to create a vendor marked without a 1099 flag and then integrate with the wvOASIS accounts payable function to create the payment voucher.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
146	ROW-144	1	Right-of-Way	Relocation	Provide the ability for users to be able to begin a Conceptual Relocation Plan as soon as the request is received from Engineering/Acquisition for which parcels on which to obtain Appraisals & Title Searches. This will allow the Relocation team to know in advance which parcels are expected to have relocations associated with them.
147	ROW-145	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display relocation owner information at the time a site inspection is performed, including the relocatee business or individual name, address, contact number, FEIN/SSN, Occupancy Code/Category, etc.
148	ROW-146	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display/monitor the status of appraisals, to determine when preparation activities for the relocation can begin.
149	ROW-147	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display information regarding the current residential and/or non-residential conditions to establish a requirements baseline for replacement properties & location.
	ROW-148	1	Right-of-Way	Relocation	Provide the ability for end-users who manage relocations to record and maintain possible solutions for relocatees.
151	ROW-149	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display Title, Appraisal, and all other pertinent information associated with the project to assist in determining feasible alternative locations for relocatees.
152	ROW-150	1	Right-of-Way	Relocation	Provide the ability to enter and maintain multiple replacement options, including basic property information, building descriptions, utilities, rental adjustments, floor plans, and safe and sanitary standards for residential relocatees.
153	ROW-151	1	Right-of-Way	Relocation	Provide the ability to enter and maintain online questionnaire information, including Interview Date, Supplemental Determination Date and Amount, Offer of FMV Date, Relocation Offer Date, Vesting Date, Ninety Day Notice Date, Thirty Day Notice Date, Date Relocated/Vacated, and Remarks regarding the Relocation.
154	ROW-152	1	Right-of-Way	Relocation	Provide the ability to enter, store, and monitor/display payments made to tenants and vendors during the relocation process, such as closing payments or any payments that may happen, so they can complete the relocation process.
155	ROW-153	2	Right-of-Way	Relocation	Provide the ability to store and retrieve/review all comps, so that when they start to look for replacement housing, the data will already be in the system for that specific project.
156	ROW-154	3	Right-of-Way	Relocation	Provide the ability to integrate with and/or replicate' the Mortgage Interest Differential Payments (MIPD) Calculators for relocation purposes. (https://www.fhwa.dot.gov/real_estate/uniform_act/relocation/midpcalcs/)

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
157	ROW-155	2	Right-of-Way	Relocation	Provide the ability to auto generate claims based on information entered through a user-defined workflow checklist.
158	ROW-156	1	Right-of-Way	Relocation	Provide the ability to auto generate the Last Resort Housing Memo, auto populated from the right-of-way solution once the amount exceeds the threshold.
159	ROW-157	1	Right-of-Way	Relocation	Provide the ability to upload pictures for the subject property and associated comps and store in ProjectWise and link for later retrieval.
160	ROW-158	1	Right-of-Way	Relocation	Provide the ability to support both business and residential relocation for property owners and tenants.
161	ROW-159	2	Right-of-Way	Relocation	Provide the ability to calculate eligible relocation costs for displacees under various relocation alternatives and to support the review of these calculations.
162	ROW-160	2	Right-of-Way	Relocation	Provide the ability to repopulate and create online relocation worksheets and questionnaires within the right-of-way solution. Worksheets and questionnaires shall be repopulated with information about displacees obtained during the acquisition process.
163	ROW-161	1	Right-of-Way	Relocation	Provide the ability to create and maintain a list of displacees associated with each parcel being acquired. The list of displacees provides information about each individual who is eligible for assistance through the relocation process.
164	ROW-162	1	Right-of-Way	Relocation	Provide ability to enter, store, and display demographics on displacees (minority, non-minority, and sex) for use in statistical reporting.
165	ROW-163	2	Right-of-Way	Relocation	Provide the ability to automatically prepare a replacement housing appraisal. This will be triggered by completion of an appraisal.
166	ROW-164	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display all (initial and subsequent) meetings with a displacee and document the information and explanations provided in each meeting.
167	ROW-165	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display the Residential Relocation Questionnaire, which captures information on all current occupants, the cost of current housing and preferences for relocation location.
168	ROW-166	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display the Non-Residential Relocation Questionnaire, which includes the name of the business; the owner of the business; demographic information on the owner; the nature/type of business; current lease terms; plans for relocating or discontinuing operations; desired relocation location and other business specific attributes.
169	ROW-167	1	Right-of-Way	Relocation	Provide the ability to generate a statement of rent and income for execution by residential displacee pre-populating where information is available in the system (owner name, spouse name, address, etc.).

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
170	ROW-168	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display information on statement of rent and income including occupant name; spouse name; address; length of time at the address; date moved in; monthly rent; utility costs; how rent was verified (cancelled checks, rent receipts, verification with landlord, etc.); and monthly income and how income was verified (pay stub, tax return, etc.).
171	ROW-169	2	Right-of-Way	Relocation	Provide the ability to calculate eligible relocation payments for residential displacees and store within the right-of-way solution.
172	ROW-170	2	Right-of-Way	Relocation	Provide the ability to calculate eligible relocation payments for business displacees and store within the right-of-way solution.
173	ROW-171	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display various types of relocation payments being offered (since some relocation payment types are taxable and others are not, this is needed to support 1099 generation).
	ROW-172	2	Right-of-Way	Relocation	Provide the ability to integrate with multiple Excel-based relocation calculators and then link to ProjectWise to save/store the calculation worksheets for later retrieval.
175	ROW-173	1	Right-of-Way	Relocation	Provide the ability to enter, store, and display available replacement housing including location, date available, asking price or rent price, a detailed description of the property, various attributes about the property and whether the property has been inspected, and by whom.
176	ROW-174	3	Right-of-Way	Relocation	Provide the ability to link to the Multiple Listing Service (MLS) for the appropriate area.
177	ROW-175	3	Right-of-Way	Relocation	Provide the ability to link to Digital Courthouse for tax information.
178	ROW-176	1	Right-of-Way	Relocation	Provide the ability to define an automated workflow to review/approve relocation payments with review steps based on user-defined business rules.
179	ROW-177	1	Right-of-Way	Relocation	Integrate with the wvOASIS ERP accounts payable function to initiate payment request for relocation. This should include pre-encumbrance for relocation amount against project and project phase.
180	ROW-178	1	Right-of-Way	Relocation	Integrate with the wvOASIS accounts payable function to obtain and record warrant numbers and date payments were made by the State.
181	ROW-179	1	Right-of-Way	Relocation	Provide ability to automatically/electronically generate a relocation claim form for execution by a residential displacee.
182	ROW-180	1	Right-of-Way	Relocation	Provide ability to automatically/electronically generate a relocation claim form for execution by a business displacee.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
183	ROW-181	1	Right-of-Way	Relocation	Provide ability to enter, store, and display the final contact with displacee following relocation including new address and contact information and information about the replacement dwelling.
184	ROW-182	1	Right-of-Way	Relocation	Provide ability to compute whether displacees are eligible to make claims based on occupancy or displacement dates.
185	ROW-183	2	Right-of-Way	Relocation	Provide ability to generate alerts within the system and a letter to displacees a user-defined number of days/months (12 months, 18 months, etc.) before displacee's eligibility to enter a relocation expense claim is set to expire.
186	ROW-184	1	Right-of-Way	Legal Condemnation	Provide the ability to generate a request to institute condemnation proceedings based on initiation by an authorized user. This letter will document last offer to the property owner; amount asked for by property owner if the property owner has disclosed a price; number of negotiations attempt with the property owner or their authorized representative; and reasons for recommending condemnation.
187	ROW-185	1	Right-of-Way	Legal Condemnation	Provide the ability to document in a condemnation request the last offer to the property owner; amount asked by property owner if the property owner has disclosed a price; number of negotiations attempt with the property owner or their authorized representative; and reasons for recommending condemnation.
188	ROW-186	2	Right-of-Way	Legal Condemnation	Provide the ability to electronically route a condemnation request to authorized reviewers and approvers based on user-defined business rules.
189	ROW-187	2	Right-of-Way	Legal Condemnation	Provide the ability to initiate condemnation proceedings based on approval of the condemnation request by authorized reviewers in the system.
190	ROW-188	1	Right-of-Way	Legal Condemnation	Provide the ability to generate a 5-day Notice Of Condemnation letter to the owner.
191	ROW-189	1	Right-of-Way	Legal Condemnation	Integrate with wvOASIS accounts payable to generate request for warrant to compensate process server, including appropriate preencumbrance against the project and project phase.
192	ROW-190	1	Right-of-Way	Legal Condemnation	Provide the ability to store all dates relevant to a condemnation, including but not limited to the following: <ul style="list-style-type: none"> - When request to institute condemnation was received from the District; - Date condemnation packet was submitted to Legal Division; - Date of Take (i.e., the Date the Petition is filed); - Right of Entry Date (ROE); - Scheduled trial date[s]; and - Date of settlement/final order.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
193	ROW-191	1	Right-of-Way	Legal Condemnation	Provide the ability to document the outcome of court proceedings and the amount of court award.
194	ROW-192	1	Right-of-Way	Legal Condemnation	Integrate with wvOASIS accounts payable to generate a request for warrant payable to Court Clerk for amount of court award, including appropriate pre-encumbrance against the project and project phase.
195	ROW-193	1	Right-of-Way	Legal Condemnation	Provide the ability to generate a 1099 only when appropriate. Right-of-way solution should provide proper 1099-flag to wvOASIS accounts payable. For example, it should ensure that a 1099 is NOT generated for the amount of a condemnation award (since the condemnation award is payable to the Court, which is responsible for any 1099 reporting to property owners upon making payment).
196	ROW-194	1	Right-of-Way	Legal Condemnation	Provide the ability to document a legal settlement prior to condemnation and capture settlement amount and other settlement information in system.
	ROW-195	1	Right-of-Way	Legal Condemnation	Integrate with the wvOASIS accounts payable function to initiate payment request for settlement amount. This should include preencumbrance for acquisition amount against project and project phase.
198	ROW-196	2	Right-of-Way	Legal Condemnation	Provide the ability to track the condemnation rate by different parameters (e.g., fiscal year, urban/rural areas, state project, federal project, etc.).
199	ROW-197	2	Right-of-Way	Legal Condemnation	Provide the ability to generate a notification to the Appraisal Section once the Petition has been filed and ROE has been granted so the Appraisal Report can be updated to the Date of Take for court.
200	ROW-198	1	Right-of-Way	Acquisition & Relocation Payments	Integrate with the wvOASIS accounts payable function to support payment processing requirements of the right-of way, utilities, and railroad agreement processes.
201	ROW-199	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to support payment of property acquisition and relocation payments to property owners and displacees (who may or may not already be in the State's vendor master). Integrate with wvOASIS and set-up the property owner or displacee in wvOASIS in order to pay property owners and displacees.
202	ROW-200	1	Right-of-Way	Acquisition & Relocation Payments	Integrate with the wvOASIS accounts payable function to initiate payment request for accepted offers. This should include preencumbrance for acquisition amount against project and project phase.
203	ROW-201	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to generate multiple warrant requests (e.g., if the property has multiple property owners who want individual checks, or payments to trusts, or payments to one or more banks for mortgage balances, and so on).

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
204	ROW-202	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to support multiple payees (i.e., warrants made out to multiple individuals) determined by percentage share due to each individual (ensuring that the State does not pay more than 100% of the agreed-upon acquisition amount).
205	ROW-203	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to display the fund balances on a project/project phase when a payment request is generated in the right-of-way solution.
206	ROW-204	2	Right-of-Way	Acquisition & Relocation Payments	Generate alerts to a project specific distribution list when the available funds on a project or project phase fall below a user-configurable threshold value.
207	ROW-205	2	Right-of-Way	Acquisition & Relocation Payments	Generate an alert to a project specific distribution list when the project end date or project financial end date is within a certain user-defined time period.
	ROW-206	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to support review and approval of acquisition and relocation payment requests by authorized users based on project number and payment amount through a workflow-driven approval process.
209	ROW-207	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to support review and approval of payments by WVDOT Business Manager for payments over a user-defined threshold.
210	ROW-208	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to support scheduling of closings following receipt of all required payment approvals.
211	ROW-209	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to initiate payment request based on obtaining all required approvals.
212	ROW-210	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to record expenditures against project, project phase, and funding source and adjust encumbrance as appropriate via integration with HUB and/or wvOASIS.
213	ROW-211	1	Right-of-Way	Acquisition & Relocation Payments	Provide ability to generate payment for property acquisition by warrant via integration with wvOASIS accounts payable.
214	ROW-212	1	Right-of-Way	Acquisition & Relocation Payments	Provide ability to generate payment for relocation by warrant or EFT with approval of an authorized user.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
215	ROW-213	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to integrate with wvOASIS to support creation of a 1099 tax form for taxable acquisition and relocation payments by wvOASIS.
216	ROW-214	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to flag payments via integration with wvOASIS accounts payable for the withholding of State of West Virginia income taxes for out-of-state property owners. That is, for out-of-state property owners, WV State income tax due should be automatically deducted and remitted to the West Virginia State Tax Department, which would be handled in wvOASIS and intergovernmental transactions transmitting individual taxpayer information to the State Tax Department electronically.
217	ROW-215	2	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to allow authorized users to track status of acquisition and relocation payment requests (excluding personally identifying information).
	ROW-216	1	Right-of-Way	Acquisition & Relocation Payments	Provide the ability to cancel checks as required via integration with wvOASIS accounts payable. As an example, once the negotiations are complete, the parcel owner may withdraw their acceptance of an offer and the check may need to be pulled and canceled.
219	ROW-217	1	Right-of-Way	Admin Payment Processing	Provide the ability for user to enter and store right-of-way relevant data in the right-of-way solution, once the Vendor Customer ID has been created in wvOASIS. This implies a lookup and confirmation from the wvOASIS vendor master and the right-of-way solution via validation of the Vendor Customer ID within the right-of-way solution.
220	ROW-218	1	Right-of-Way	Admin Payment Processing	Provide the ability to track and maintain all payments related to reimbursable Acquisition & Relocation for Design-Build projects.
221	ROW-219	1	Right-of-Way	Contract Management	Integrate with wvOASIS procurement function to support auto-generation of contract numbers for all Individual Services Contracts (Appraisal, Acquisition, Relocation, etc.).
222	ROW-220	1	Right-of-Way	Contract Management	Integrate with the wvOASIS procurement function to access and maintain a list of contract appraisers, attorneys, right-of-way services firms, and firms performing disinterment and reinterment services.
223	ROW-221	1	Right-of-Way	Contract Management	Provide the ability to maintain a list of approved service providers such as approved appraisers, attorneys, right-of-way consultants
224	ROW-222	1	Right-of-Way	Contract Management	Provide the ability to search a list of real estate specific capabilities and specifications which a consultant is authorized to perform.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
2	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
225	ROW-223	2	Right-of-Way	Contract Management	Provide the ability to maintain a list of key staff members at each appraisal or right-of-way services firm, integrating with the wvOASIS procurement function as appropriate. This should include vendor identification number, company name, employee name, phone number, fax number, email address, physical address, functional role if applicable (e.g., project manager, appraiser, right-of-way agent, etc.), and any licenses and certifications which the individual holds.
226	ROW-224	2	Right-of-Way	Contract Management	Integrate with the wvOASIS procurement/contracts management function to support the consultant selection process for appraisal and other right of-way acquisition services.
227	ROW-225	2	Right-of-Way	Contract Management	Provide the ability to define a proposed consultant scope of work including a description and the items of work to be performed.
228	ROW-226	2	Right-of-Way	Contract Management	Provide the ability to record an WVDOT estimate of cost of performing services and create pre-encumbrance for this amount against appropriate project, project phase, and funding source.
	ROW-227	2	Right-of-Way	Contract Management	Provide the ability to record and store consultant responses to WVDOT issued scopes of work. Response documents should be stored in ProjectWise and linked for later retrieval.
230	ROW-228	1	Right-of-Way	Contract Management	Provide the ability to document WVDOT selection of consultant including selection team scoring and comments.
231	ROW-229	1	Right-of-Way	Contract Management	Integrate with wvOASIS purchasing function to create purchase orders for selected consultant and encumber funds against the appropriate project, project phase, and funding sources.
232	ROW-230	1	Right-of-Way	Contract Management	Integrate with the wvOASIS procurement/contracts management function to support the creation, maintenance and tracking of contracts for any contracted services such as appraisals, etc.
233	ROW-231	1	Right-of-Way	Contract Management	Provide the ability to track contract number, contract amount, contract effective date, contract expiration date, vendor contacts for the contract, and other contract attributes.
234	ROW-232	2	Right-of-Way	Contract Management	Provide the ability to support creation and modification of consultant contract templates in system as required.
235	ROW-233	2	Right-of-Way	Contract Management	Provide the ability to generate consultants contracts in the system using contract templates as required, based on a set of parameters.
236	ROW-234	1	Right-of-Way	Contract Management	Provide the ability to support creation, review, approval and execution of contract change orders.
237	ROW-235	2	Right-of-Way	Contract Management	Provide the ability to record consultant performance ratings on a specific scope of work.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
238	ROW-236	1	Right-of-Way	Contractor Payments	Provide the ability to record and review a consultant or contractor invoice and then integrate with the wvOASIS accounts payable function to initiate the accounts payable voucher and initiate processing of the consultant payment within wvOASIS. Store the invoice submission in ProjectWise and link to ProjectWise for future retrieval. This requirement should apply to contractor payments for individuals and firms performing contracted services in support of the right-of-way acquisition process and for utilities or railroads performing work under utility relocation agreements.
239	ROW-237	3	Right-of-Way	Contractor Payments	Provide the ability for a consultant, utility, etc. to enter and upload an invoice via an Internet-based portal.
240	ROW-238	1	Right-of-Way	Contractor Payments	Provide the ability to support electronic review and approval of a consultant, contractor, utility company or railroad invoice by authorized users based on project number through a workflow-driven approval process.
242	ROW-239	1	Right-of-Way	Contractor Payments	Provide the ability to display the fund balances on a project/project phase when a payment request is generated in the system.
242	ROW-240	2	Right-of-Way	Contractor Payments	Provide the ability to generate alerts when the available funds on a project or project phase fall below a user-definable threshold value.
243	ROW-241	1	Right-of-Way	Contractor Payments	Provide the ability to initiate payment request based on approvals of invoice by authorized users.
244	ROW-242	1	Right-of-Way	Contractor Payments	Provide the ability to record expenditure against project, project phase and funding source and adjust encumbrance as appropriate.
245	ROW-243	2	Right-of-Way	Contractor Payments	Integrate with wvOASIS to obtain invoice payment status and provide the ability to allow authorized WVDOT staff to track the status of an invoice payment, excluding review of any personally identifying information (PII).
246	ROW-244	1	Right-of-Way	Property Management	Provide the ability to integrate with HUB & Advantage Financial for all information as it pertains to payable & receivable leases to support invoicing for lease amounts due and obtaining information back on receipt of payments.
247	ROW-245	1	Right-of-Way	Property Management	Provide the ability to maintain all right-of-way assets (Land, Buildings, Leases) and integrate with wvOASIS Asset Inventory so all right-of-way assets are being entered/stored into the right-of-way solution and then interface with wvOASIS so data is not being entered into two separate databases. The right-of-way system should maintain our asset inventory and should integrate with wvOASIS to meet the requirements. Inventory shall include parcel location including full geospatial location, property description, information on any structures and other attributes. Inventory record will be linked back to acquisition information/history.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Right-of-Way (ROW) Requirements**

	A	B	C	D	E
	Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
2					
248	ROW-246	1	Right-of-Way	Property Management	Provide the ability to request and track the progress on all Property Management appraisal report requests.
249	ROW-247	1	Right-of-Way	Property Management	Provide the ability to track lease term dates. For example, the system should generate a notification 90 days before the termination of the lease so the Property Management section can take the appropriate steps on renewing or canceling the lease.
250	ROW-248	1	Right-of-Way	Property Management	Provide the ability to track and manage when property is sold. This includes removing it from the overall asset inventory and integrating with the various systems so that it is removed from all systems. This includes integration with wvOASIS fixed assets, WVDOT transportation asset inventory and BRIM.
251	ROW-249	3	Right-of-Way	Property Management	Provide the ability to capture the intended future use of all assets for inclusion into wvOASIS (for example if DOT acquires a piece of vacant land that will be utilized for a maintenance facility, etc.)
252	ROW-250	1	Right-of-Way	Reporting	Provide the ability to create the Title VI Civil Rights Review Quarterly report including the project number, parcel number and name of owners, whether it was an acquisition or relocation, and whether the impacted parties are a minority and/or a female head of household.
253	ROW-251	1	Right-of-Way	Reporting	Provide a dashboard for WVDOT management summarizing the status of right-of-way acquisition activities for each project in a red, yellow, and green format based on user-definable variables for budget and schedule. Provide the capability to drill down within each project to see the status of each parcel in the same format and then allow the user to drill down further into the specific detailed information for any parcel. This dashboard should be able to be filtered by district.
254	ROW-252	1	Right-of-Way	Reporting	Provide a dashboard for WVDOT management which summarizes the status of utility relocation and railroad agreement activities for each project in a red, yellow, and green format based on user-defined variables for budget and schedule. Provide the capability to drill down within each project to see the status of each parcel in the same format and then allow the user to drill down further into the specific detailed information for any parcel. This dashboard should be able to be filtered by district.
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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-01	1	Utility Relocation and Railroad Agreements	General	Provide the ability to support management and tracking of utility relocation activities required for transportation projects according to the WVDOT utility relocation manual.
UTRR-02	1	Utility Relocation and Railroad Agreements	General	Provide the ability to support management and tracking of railroad agreements required for transportation projects.
UTRR-03	1	Utility Relocation and Railroad Agreements	General	Provide the ability to enter, store, and display a ROW Utility Dashboard to define and maintain the relocation of utilities tied to state, district, and federal construction projects.
UTRR-04	1	Utility Relocation and Railroad Agreements	General	Integrate with the WVDOT HUB application to obtain project identification and attribute information.

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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
TRR-05	1	Utility Relocation and Railroad Agreements	General	<p>Provide the ability to enter, store, and display minimally the following information to manage utility relocations:</p> <ul style="list-style-type: none"> - Project Number and description as obtained from HUB; - Utility company and utility company contact information; - Responsibility; - Overall Project Cost Estimate; - Utility Coordinator Name; - Project Manager Name; - Consultant Name; - Contractor Name; - Project Key; - Utility Cost Estimate (Date and Amount); - State share of cost (Supplemental and Total); - Utility share of cost; - Types of reimbursable cost (Design, construction, inspection and legal); - County and District; - Location (county/route milepost and Longitude and Latitude); - Amount of right-of-way frontage and private frontage; - Entity performing design work and relocation work; - User-defined Status Codes; - Overall ACTIVE/INACTIVE Flag; - User-defined programs (i.e., ability to tie utility relocation to programs such as the "WV Roads to Prosperity Program"); - Project milestone schedule (see additional requirements following); - Project Activity Dates (see additional requirements following); - Comments (general and DDR Comments separately); - Involved utility companies (see additional requirements following); and

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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-06	1	Utility Relocation and Railroad Agreements	General	Provide the ability to identify and link one or more utility companies to the project and the ability to define and track relevant information regarding each, including but not limited to: Type of Utility (e.g., Gas, Electric, Railroad, etc.); - VER Request Date; - VER Received Date; - Whether Utility is Present or Not and Whether it is Impacted; - Who will do the work; - Relocation Request Date; - Relocation Received Date; - Relocation Approved Date; - Agreement Required (Y/N); - Type of Agreement (Normal, no reimbursement, supplemental, betterment, etc.); - NTP Date; - STEP; - Agreement Sent Date; - Agreement Received Date; - Relocation Started Date; - Utility Cleared Date' and - Free-form Comments/Notes field for Utility.
UTRR-07	1	Utility Relocation and Railroad Agreements	General	System shall also allow for linking to the agreement record for a utility relocation or a railroad agreement various related documents stored in ProjectWise including request letter, WVDOT RW8.01 forms, invoices to verify contract work, relocation plan, working days schedule, copies of deeds/easements or affidavit.
UTRR-08	1	Utility Relocation and Railroad Agreements	Forms Management	Provide the ability to create and auto-populate PE Letters, RR & Utility Agreements, and Notice to Proceed Letters. Provide capability to update all memos/letters that use the letterhead.
UTRR-09	1	Utility Relocation and Railroad Agreements	Forms Management	Ability to create and auto-populate forms with ability to manually override and update forms/letter as needed.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-10	1	Utility Relocation and Railroad Agreements	Document Management	Provide the ability to attach and maintain associated external documents or attachments. Documents should be stored in ProjectWise and linked to for future retrieval from within the system.
UTRR-11	1	Utility Relocation and Railroad Agreements	Agreements	Provide the ability to document detailed utility or railroad relocation agreement. Allow for creation and maintenance of agreement templates and allow authorized users to change/updates these agreement templates which can then be utilized to create specific utility or railroad relocation agreements.
UTRR-12	1	Utility Relocation and Railroad Agreements	Workflow	Provide the ability to provide an automated workflow to review/approve relocation agreement with review steps based on user-defined business rules.
UTRR-13	1	Utility Relocation and Railroad Agreements	Data Integration	Provide the ability to import changes to project information from HUB.
UTRR-14	1	Utility Relocation and Railroad Agreements	Data Integration	Provide the ability to integrate with the wvOASIS accounts payable function to initiate payment request for any utility or railroad relocation cost to be reimbursed by the State. This should include pre-encumbrance for relocation amount against project and project phase. Please also refer to the Acquisition & Relocation Payments subcategory on the Right-of-Way tab.
UTRR-15	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT transportation asset inventory function to pre-populate any available information about the utility or railroad assets which must be relocated.
UTRR-16	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT transportation asset inventory function to update the transportation asset inventory with the new location of the utilities within the right-of-way or information about the railroad asset.
UTRR-17	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT CAD environment to allow linking to and displaying source data files associated with a utility or railroad relocation within the WVDOT CAD environment.

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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-18	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT CAD environment to support automatic update of utility and railroad relocation data based on any changes to the design plans.
UTRR-19	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT CAD environment when a utility or railroad relocation is initially set-up to import information from the design plan sheets.
UTRR-20	1	Utility Relocation and Railroad Agreements	Data Integration	Integrate with the WVDOT CAD environment or ProjectWise to store as built plan files if provided by utility or railroad.
UTRR-21	1	Utility Relocation and Railroad Agreements	GIS Integration	Provide a geospatial display of utility relocation and railroad agreement information via a GIS viewer within the utility relocation and railroad functionality. Please refer to Requirements ROW-024 through ROW-029 on the Right-of-Way tab which are also intended to apply to utility relocation and railroad agreement information.
UTRR-22	1	Utility Relocation and Railroad Agreements	GIS Integration	Integrate with the WVDOT ArcGIS environment to allow users to select an area of interest in the WVDOT GIS and then drill down to utility relocation and railroad agreement information within the utility relocation and railroad agreements application. Please refer to Requirements ROW-030 through ROW-033 on the Right-of-Way tab which are intended to apply to utility relocation and railroad agreements.
UTRR-23	3	Utility Relocation and Railroad Agreements	Notification	Provide the ability for the system to generate a notification to a utility when a parcel/project location is cleared and ready for Utilities to occupy.
UTRR-24	2	Utility Relocation and Railroad Agreements	Notification	Provide a notification to the project manager and WVDOT staff member responsible for managing the specific relocation when the relocation is within a user-defined number of days of the target completion date and has not yet been completed.
UTRR-25	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document each utility or railroad asset requiring relocation for a project.

**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-26	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store name of utility or railroad.
UTRR-27	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store description of utility or railroad asset to be relocated.
UTRR-28	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store type of utility or railroad asset to be relocated.
UTRR-29	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store location of utility or railroad by multiple location references including physical street address, geospatial reference, construction station, etc.
UTRR-30	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store contact information for utility or railroad representative.
UTRR-31	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document a target date for completion of relocation.
UTRR-32	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document date relocation is completed.
UTRR-33	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document each discussion with the utility or railroad concerning the relocation including date, time, location of discussion, individuals from WVDOT and the utility/railroad participating and a summary of the discussion.

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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-34	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document estimated cost of relocation for each individual utility or railroad asset.
UTRR-35	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document estimated cost of relocation for the entire project either as a summary cost or as a roll-up from the individual cost estimates for each identified relocation activity.
UTRR-36	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document in narrative format agreed to approach for completing the relocation.
UTRR-37	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document party responsible for completing relocation (State, utility, railroad or other).
UTRR-38	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to document the party responsible for cost associated with relocation (State, utility, railroad or other).
UTRR-39	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store a history of cost estimates for each relocation with the date of the estimate and a description of changes since the last cost estimate.
UTRR-40	1	Utility Relocation and Railroad Agreements	Project Information	Provide the ability to store the WVDOT staff member responsible for managing relocation activity for the project.

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**WVDOT Right-of-Way, Utilities and Railroad Management System
Utility Relocation and Railroad Agreement Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement
UTRR-41	1	Utility Relocation and Railroad Agreements	Monitoring Relocation Activities	Provide the ability to define key dates to track/record to maintain a Project Milestone Schedule. <i>(As an example, the legacy application maintains the following dates: Start CP Date, Start ROW Date, CP Completion Date, RW/U Certification Date, CP/RW Rdy Date, PS E Sub Date, Adv Cntr Date, Let Contract Date, Award Contract Date, Start Construction Date, and Completion Date.)</i>
UTRR-42	1	Utility Relocation and Railroad Agreements	Monitoring Relocation Activities	Provide the ability to define key dates to track/record to maintain a set of Project Activity Dates. <i>(As an example, the legacy application maintains the following dates: RFV Date, RW 1-2's Date, 1-2's Rdy Date, ROW Authorization Date, ROW Certification Date, 3's Ready Date, RFCE Date, PFR Date, UCM Date, RFUS Date, FFR Date, and FOR Date.)</i>
UTRR-43	1	Utility Relocation and Railroad Agreements	Monitoring Relocation Activities	Provide the ability to allow District staff to record inspection activities in support of utility relocation or railroad agreement and to indicate when work is completed and inspected.

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**WV DOT Right-of-Way, Utilities and Railroad Management System
Management Reporting Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RPT-001	1	Management Reporting	General	Provide a wide range of pre-defined reports that support day-to-day right of way and utilities and railroad relocation management functions. Reports should be able to be scheduled and automatically generated and distributed (pushed to the user) by the operational system at a user defined time for publication.	Off the Shelf with Configuration					The Delasoft modules provide comprehensive query and reporting tools for ad hoc and canned reports, shareable queries and data exports.
RPT-002	2	Management Reporting	General	Provide capability to copy and modify existing reports as the basis for a new report.	Off the Shelf with Configuration					
RPT-003	2	Management Reporting	General	Provide tools within the Vendor solution to configure new reports.	Off the Shelf with Configuration					
RPT-004	3	Management Reporting	General	Provide an ad-hoc query tool within the Vendor solution. The adhoc query toolset within the Vendor solution will not require knowledge and training on its own proprietary language for the majority of users (non power users).	Off the Shelf with Configuration					
RPT-005	2	Management Reporting	General	Provide the ability to integrate with a WV DOT business Intelligence environment.	Modification to Base Code	Medium				The Delasoft platforms are extendable through web APIs and code modifications to integrate with external BI software.
RPT-006	3	Management Reporting	General	Provide the ability to integrate other third-party reporting tools (Crystal Reports, PowerBI, etc.) with the Vendor solution.	Modification to Base Code	Medium				
RPT-007	2	Management Reporting	General	Provide an entity relationship diagram(s) to support development of end-user reports through the ad-hoc query tool within the Vendor solution or a third-party reporting application.	Modification to Base Code	Small				
RPT-008	2	Management Reporting	General	Provide ability to view key performance indicators and other organizational performance data on a user-friendly intuitive dashboard.	Off the Shelf with Configuration					
RPT-009	1	Management Reporting	General	Provide the capability to integrate with a future WV DOT business Intelligence environment.	Modification to Base Code	Medium				The Delasoft modules are designed to be extensible as new requirements and tools become available.
RPT-010	1	Management Reporting	General	Provide a solution which is architected to support the ability to have 24-hour/7 day a week access (excluding defined maintenance windows) to the reporting functions.	Off the Shelf					
RPT-011	2	Management Reporting	General	Provide user access to predefined reports available within the Vendor solution without requiring the installation of any client software.	Off the Shelf with Configuration					
RPT-012	2	Management Reporting	General	Provide user access to the functionality of the adhoc query tool for a minimum of 80% of the available functionality without requiring the installation of any client software (it is recognized that some capabilities utilized by power users may require the installation of additional software on the client desktop).	Off the Shelf					The Delasoft modules are 100% web based and do not require client side installations.
RPT-013	2	Management Reporting	General	Provide user access to the forecasting capabilities within the Vendor solution for a minimum of 50% of the available forecasting capabilities without requiring the installation of any client software.	Off the Shelf					
RPT-014	2	Management Reporting	General	Provide user access to analysis, modeling and dashboarding tools within the Vendor solution for a minimum of 50% of the available capabilities within these functions without requiring the installation of any client software.	Off the Shelf					
RPT-015	1	Management Reporting	General	Leverage the roles and security definitions that will be deployed for the main right of way management system within the reporting and business function to minimize duplication of security administration functions.	Off the Shelf					
RPT-016	2	Management Reporting	General	Support utilization of the same hardware and operating system specifications (architectural landscape) that are required for the operational platform for the reporting environment to the extent feasible.	Off the Shelf					

**WVDOT Right-of-Way, Utilities and Railroad Management System
Management Reporting Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RPT-017	2	Management Reporting	General	Provide a reporting solution which is architected to allow sizing of data repositories to meet changing business needs allowing clients and servers to be added, upgraded or removed as computing capacity needs change, without reconfiguring the operational system or reporting environment.	Off the Shelf					
RPT-018	2	Management Reporting	Report Portal	Provide users with a personalized report portal that allows access to only those reports that the user is authorized to see consistent with role-based security definitions.	Off the Shelf					
RPT-019	3	Management Reporting	Report Portal	Display on the reports portal a list of reports that have been distributed to the user (i.e. the user has been granted authorization to view a report by the designated report publisher/owner).	Off the Shelf					
RPT-020	3	Management Reporting	Report Portal	Display on the reports portal a list of saved personalized reports and ad-hoc queries that the user has authority to either create or modify in the user's personal reports list.	Off the Shelf					
RPT-021	3	Management Reporting	Report Portal	Allow users to search existing reports inventory and subscribe to reports after requesting and receiving permission from the report owner/publisher	Off the Shelf with Configuration					
RPT-022	3	Management Reporting	Report Portal	Provide the ability for designated report publishers to un-publish reports to individual users or groups of users, with the un-publication subject to approval based on WVDOT business rules.	Off the Shelf with Configuration					
RPT-023	3	Management Reporting	Report Portal	Allow end-users to share saved personalized reports and ad-hoc queries for use by another user.	Off the Shelf with Configuration					
RPT-024	3	Management Reporting	Report Portal	Allow end-users to delete shared reports from their personal reports list without deleting the shared report from another user's personal reports list.	Off the Shelf with Configuration					
RPT-025	3	Management Reporting	Report Portal	Allow users to refresh (run) saved personal reports or ad-hoc queries from the portal with an option to run in the background and send a notification to the user upon completion.	Modification to Base Code	Small				
RPT-026	3	Management Reporting	Standard Report Features	Allow users to execute reports and modify report query parameters on-line and allow users to save modified report parameter sets as personal versions without impacting the base query.	Off the Shelf					The Delasoft team will work with WVDOT staff to accommodate all reporting requirements either in COTS base code or with enhancements to the product.
RPT-027	2	Management Reporting	Standard Report Features	Provide drill down capability from summary information to the supporting detail transactions and drill up from the detail transaction to the summary information.	Off the Shelf with Configuration					
RPT-028	2	Management Reporting	Standard Report Features	Provide, as part of drill down functionality, the ability to print the expanded sections of the drill down results with the content of the original query results.	Modification to Base Code	Small				
RPT-029	3	Management Reporting	Standard Report Features	Link the report generator directly to the data dictionary to provide point and click data item selection and drag-and-drop formatting by the user.	Off the Shelf					
RPT-030	3	Management Reporting	Standard Report Features	Allow users to define or modify the sort order of reports.	Off the Shelf					
RPT-031	3	Management Reporting	Standard Report Features	Allow users to search for data, transactions or documents using a range of data values.	Off the Shelf					
RPT-032	3	Management Reporting	Standard Report Features	Provide authorized users with the capability to perform a search within a report output/results set.	Off the Shelf with Configuration					
RPT-033	3	Management Reporting	Standard Report Features	Provide authorized users with the capability to perform searches with full "if..then..else" logic within a report output/results set.	Off the Shelf with Configuration					

**WV DOT Right-of-Way, Utilities and Railroad Management System
Management Reporting Requirements**

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RPT-034	4	Management Reporting	Standard Report Features	Provide authorized users with the capability to perform free-form text searching within a report output/results set. Search capability shall include the specification of words that are in a given range of words and shall include embedded, attached or linked documents.	Modification to Base Code	Small				
RPT-035	2	Management Reporting	Standard Report Features	Present data in both tabular and graphical formats.	Modification to Base Code	Small				
RPT-036	3	Management Reporting	Standard Report Features	Provide reporting and analytical capabilities with a similar user interface/user experience to the extent practical as other Right of Way Management system functions (reporting toolset should not have a significantly different look and feel to the end-user from other parts of the Vendor system).	Off the Shelf					
RPT-037	3	Management Reporting	Standard Report Features	Provide ability to allow the results from any online search or query performed within the Vendor solution to be printed.	Off the Shelf					
RPT-038	2	Management Reporting	Standard Report Features	Provide standard print capabilities such as those typically available in Windows-based products such as print preview, print a range of pages, print a number of copies, etc.	Modification to Base Code	Small				
RPT-039	2	Management Reporting	Standard Report Features	Provide ability to schedule a report to run automatically if certain conditions (business rules) are met.	Off the Shelf with Configuration					
RPT-040	2	Management Reporting	Standard Report Features	Support export of query and report results as an external database (for example in Microsoft Access or SQL Server readable formats).	Off the Shelf					
RPT-041	2	Management Reporting	Standard Report Features	Support export of query and report results in a variety of different industry standard formats including but not limited to .xls or .xlsx, .doc or .docx, PDF, .txt, XML, ASCII, comma delimited, tab delimited, etc.	Off the Shelf					
RPT-042	3	Management Reporting	Standard Report Features	Provide for report distribution based on events, process milestones, or predefined data thresholds or values, e.g., based on data values contained within the report (i.e., conditional operators >, <, =, etc.)	Off the Shelf with Configuration					
RPT-043	3	Management Reporting	Standard Report Features	Provide the capability to integrate third party report distribution software solutions.	Modification to Base Code	Small				
RPT-044	3	Management Reporting	Standard Report Features	Provide functionality to distribute reports by a variety of methods such as sending links to reports via email, web, fax, or PDA.	Off the Shelf with Configuration					
RPT-045	3	Management Reporting	Standard Report Features	Support effective date selection and query including Boolean operations such as date ranges.	Off the Shelf					
RPT-046	3	Management Reporting	Standard Report Features	Provide functionality for the user to incorporate formulas, functions, and mathematical calculations into reports as well as typical grouping, mathematical and statistical functions on data in reports (such as sum, count, average, etc.)	Off the Shelf with Configuration					
RPT-047	3	Management Reporting	Standard Report Features	Provide the ability to create and specify report templates.	Off the Shelf					
RPT-048	3	Management Reporting	Standard Report Features	Provide wizards to guide the users through report building steps.	Off the Shelf					
RPT-049	3	Management Reporting	Standard Report Features	Provide cursor selection and drag-and-drop features to assist users in formatting of files, elements, and operands (e.g., <, >, /, *) from data dictionary or other pre-established lists.	Off the Shelf with Configuration					
RPT-050	3	Management Reporting	Standard Report Features	Provide graphical report layout tools and drag-and-drop features to assist users in formatting reports and inquiries.	Modification to Base Code	Medium				

**WVDOT Right-of-Way, Utilities and Railroad Management System
Management Reporting Requirements**

Req. #	Priority	Category	Sub-Category	Business [Functional] Requirement	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RPT-051	3	Management Reporting	Standard Report Features	Provide support for graphical data visualization features including but not limited to stacked bar charts, min/max line graphs, regression lines, dashboard gauges, etc.	Modification to Base Code	Medium				
RPT-052	3	Management Reporting	Standard Report Features	Provide ability to link from reporting tool to Microsoft Office graphic, spreadsheet and presentation applications.	Modification to Base Code	Medium				
RPT-053	3	Management Reporting	Ad-hoc Query	Allow users to build ad-hoc queries to report on any fields in the Vendor solution for which they are authorized using one or more of a combination of different criteria; provide online access to a data dictionary showing data element and table to assist query building.	Off the Shelf					
RPT-054	3	Management Reporting	Ad-hoc Query	Allow a user to save an ad-hoc query for later execution without impacting any base query that was used as a start point.	Off the Shelf					
RPT-055	3	Management Reporting	Ad-hoc Query	Display a user's saved ad-hoc queries by descriptive name on the user's report portal.	Off the Shelf					
RPT-056	3	Management Reporting	Ad-hoc Query	Allow a user to authorize one or more additional users to have access to a saved ad-hoc query through the report portal.	Off the Shelf with Configuration					
RPT-057	3	Management Reporting	Ad-hoc Query	Display any ad-hoc queries that are authorized (shared) by one user for use by a second user on the second user's report portal.	Off the Shelf with Configuration					
RPT-058	2	Management Reporting	Ad-hoc Query	Provide ability to track data by user-defined performance indicators.	Off the Shelf with Configuration					
RPT-059	2	Management Reporting	Report Administration	Provide a solution architected so as to centrally manage the reporting tool set to ensure that any updates are distributed to users and that all users are accessing the same version of the reporting software.	Off the Shelf					
RPT-060	1	Management Reporting	Report Administration	Ensure solution is architected so system performance is not impacted when a large report or inquiry is being run.	Off the Shelf					
RPT-061	3	Management Reporting	Report Administration	Provide the ability to schedule, view and modify the start time for batch printing including any dependencies on certain business conditions or events; provide option to restrict batch printing of large volume outputs by job or to certain authorized users to minimize on paper usage.	Modification to Base Code	Small				
RPT-062	1	Management Reporting	Report Administration	Enable users to run ad hoc reports and queries without degradation of system performance.	Off the Shelf					
RPT-063	2	Management Reporting	Report Administration	Allow the system administrator or other authorized user to define limits on the execution time for a report or query and/or the numbers being retrieved.	Modification to Base Code	Small				
RPT-064	2	Management Reporting	Report Administration	Cancel automatically a query or report job if it fails to meet system administrator defined criteria (e.g., time limits, infinite loops, excessive pages, etc.)	Modification to Base Code	Small				
RPT-065	2	Management Reporting	Report Administration	Provide the ability for authorized users or system administrator to terminate any query or report that significantly reduces system performance.	Off the Shelf with Configuration					
RPT-066	3	Management Reporting	Report Administration	Allow system administrator or other authorized user to override parameters for an individual query or report.	Modification to Base Code	Small				
RPT-067	3	Management Reporting	Report Administration	Provide functionality to audit exports of report data and modifications to report definitions.	Modification to Base Code	Small				
RPT-068	2	Management Reporting	Report Administration	Provide the ability to configure reports such that information can be suppressed based on a user's role.	Off the Shelf with Configuration					
RPT-069	2	Management Reporting	Report Administration	Provide reports on user production statistics by user ID, time of day, length of job, etc. to determine who is viewing a report, what reports are being used and resources consumed by department/user suitable for billing purposes.	Modification to Base Code	Small				
RPT-070	2	Management Reporting	Report Administration	Maintain an active metadata repository that contains definitions of all data elements and attributes within the Vendor's solution (maintain both product meta data and user configured changes).	Off the Shelf with Configuration					

WVOT Right-of-Way, Utilities and Railroad Management System
Application Architecture Reqmnts

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes	
APP-001	1	Application Architecture	General	Provide a suite of fully-integrated application modules in which data captured in one module is readily available for use and updated as appropriate in other modules of the system.	Off the Shelf					The Delasoft modules work together seamlessly sharing a single database repository.	
APP-002	1	Application Architecture	General	Provide ability to share all related business information across functional areas and organizations, subject to application security and user defined business rules and security considerations.	Off the Shelf					The Delasoft modules manage data access through users/roles and flexible business rules. External users must be granted explicit permission to see all data items.	
APP-003	1	Application Architecture	General	Provide an integrated data management structure that is utilized across the proposed software solution minimizing system processing or administration required on the data integration points.	Off the Shelf						
APP-004	1	Application Architecture	General	Provide user-controlled definition and maintenance of system values and business rules in tables, system configuration files, coding, and business rules in data structures and interfaces without requiring programmer intervention to modify and providing the capability for an application administrator or other authorized users to manage and maintain system configurations, settings, and data tables.	Off the Shelf						The Delasoft modules are built to maximize flexibility and minimize the need for code change enhancements. The data model, user interfaces and business rules are fully configurable in the administrative interface.
APP-005	2	Application Architecture	General	Update all related modules and tables immediately with a single entry; that is, any change to a project attribute or project status information is made only once but takes effect throughout the system.	Off the Shelf						
APP-006	2	Application Architecture	General	Provide means of altering tables and/or data structures to support user-defined fields and capability for system administrator or other authorized users to create new data items on-line and automatically update a global data dictionary with these new elements.	Off the Shelf						The Delasoft modules are built to maximize flexibility and minimize the need for code change enhancements. The data model, user interfaces and business rules are fully configurable in the administrative interface.
APP-007	2	Application Architecture	General	Provide application administrator or other authorized user with screen layout configuration capabilities including movement of fields on the screen and/or across tables, removal of fields, addition of user-defined fields, reorder or consolidation of tables, buttons to enable print and selection of related reports, links to other business objects (such as CAD drawings, user manuals, project records, contract records, etc.)	Off the Shelf						The Delasoft modules are built to maximize flexibility and minimize the need for code change enhancements. The data model, user interfaces and business rules are fully configurable in the administrative interface.
APP-008	2	Application Architecture	General	Support consistency in terms of field labels such that a screen label defined in one place would be referred to in the same way everywhere and separated by line of business, role, etc.	Off the Shelf with Configuration						
APP-009	2	Application Architecture	General	Within the system, utilize a design which provides the end user with a perspective of real-time update of data (even if some processes may be happening in the background to complete database updates); that is, users should not be required to toggle back and forth from a screen being used to perform a business process using a job queue to check the status of a batch/background task being able to proceed to the next screen in a series of screens required to perform a specific business function/task.	Off the Shelf						Users may open multiple interfaces in different tabs and windows and see current data without conflicts.
APP-010	2	Application Architecture	General	Perform transactions in real-time in the sense that online access will display the most current element value (e.g., if a user changes the value of a data element on one screen, the newly changed data value will be shown when the user moves to another screen with that same data element).	Off the Shelf						
APP-011	1	Application Architecture	General	Edit all system input according to user-defined business rules so that the rules are appropriately and consistently applied and data is validated at the time the data is entered into the system (on-line or via a batch transaction).	Off the Shelf						The Delasoft modules support by standard in line validation (data types, dropdowns, limits, etc...) and complex run time business rule definitions (enable/disable based on record conditions, user/role, etc...)
APP-012	2	Application Architecture	General	Utilize effective-dated transactions and table updates (either dated for future action or dated to be retroactive) with the ability to specify data edits by type of transaction.	Off the Shelf with Configuration						
APP-013	2	Application Architecture	General	Support multiple concurrent application sessions for each user; each concurrent session must be able to support the same security profile or a different profile if the user has multiple profiles.	Off the Shelf						

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APP-014	2	Application Architecture	General	Provide capability for a user to have multiple screens or tabs open within a single user session.	Off the Shelf				
APP-015	2	Application Architecture	General	Maintain security logs and audit trails distinctly for each concurrent user session.	Off the Shelf				
APP-016	2	Application Architecture	General	Support encryption, masking, or hiding of any fields with restricted access to only authorized users by department/business unit and role and responsibility.	Off the Shelf with Configuration				
APP-017	2	Application Architecture	General	Provide capability to indicate at the field level user classes or individual users who are authorized to view masked or encrypted fields.	Off the Shelf with Configuration				
APP-018	2	Application Architecture	General	Allow display of masked, hidden, or encrypted fields by an authorized user.	Off the Shelf with Configuration				
APP-019	1	Application Architecture	General	Comply with the Rehabilitation Act of 1973 and Americans with Disabilities Act (ADA) Section 508 standards for accessibility of all system functions.	Off the Shelf with Configuration				
APP-020	1	Application Architecture	User Interface	Utilize a consistent user interface across the software (excluding proposed third party solutions) including user definable hot keys; screen naming functions; navigation patterns; consistent use of controls; and online help and menus (as defined by the user's security profile).	Off the Shelf				
APP-021	2	Application Architecture	User Interface	Ensure messages appear in a consistent format across all system functions for both batch and on-line processing.	Off the Shelf				
APP-022	2	Application Architecture	User Interface	Allow manual entry and also context specific drop-down lists of all valid values for each validated field where appropriate.	Off the Shelf				
APP-023	2	Application Architecture	User Interface	Provide immediate transfer (paste of value(s) from a "pop up" list of values tables to the appropriate field when selected.	Off the Shelf				
APP-024	2	Application Architecture	User Interface	Architect so as to have interfaces proceed directly and automatically to the next appropriate field when data is entered, for example "Tabbing" through fields in a defined sequence.	Off the Shelf				
APP-025	2	Application Architecture	User Interface	Allow user to directly access other input screens and modules without need for backing out of menus or menu paths.	Off the Shelf				
APP-026	2	Application Architecture	User Interface	Allow navigation between multiple, related input screens without losing any information input on the original (or header) screen.	Off the Shelf				
APP-027	2	Application Architecture	User Interface	Allow user to move backward within a menu structure and screens without losing previously entered data.	Off the Shelf				Users may open multiple interfaces in different tabs and windows and see current data without conflicts.
APP-028	2	Application Architecture	User Interface	Allow a user to cancel transaction and/or exit any document or screen without saving changes.	Off the Shelf				
APP-029	1	Application Architecture	User Interface	Support cut and paste for copying data between screens.	Off the Shelf				
APP-030	2	Application Architecture	User Interface	Provide a display that indicates (e.g., highlighting) all required fields for entry on any screen.	Off the Shelf				
APP-031	2	Application Architecture	User Interface	Provide a search and filter capability on user screens containing columns of data.	Off the Shelf				The Delasoft modules support search and filter on all table based data displays.
APP-032	2	Application Architecture	Functions and Features	Support use of keyboard data entry only (i.e., allow screen functions to be performed without use of a mouse).	Off the Shelf				
APP-033	1	Application Architecture	Functions and Features	Support the generation of email messages by the system based on various system/business events utilizing SMTP for outbound messages.	Off the Shelf				The Delasoft modules support email communication for notifications both manual and automated.
APP-034	2	Application Architecture	Functions and Features	Allow any master record or validation table entry to be activated or inactivated.	Off the Shelf				
APP-035	1	Application Architecture	Functions and Features	Provide for wildcard, partial, and multi-term searches: include ability to define must-have and optional criteria.	Modification to Base Code	Small			
APP-036	2	Application Architecture	Functions and Features	Provide capability to auto-populate the value of a field based on the value of a previously entered field using user-defined business rules and/or validations.	Off the Shelf				
APP-037	2	Application Architecture	Functions and Features	Allow overriding of system or user-defined defaults based on business rules with an audit trail within individual functions.	Off the Shelf				
APP-038	2	Application Architecture	Functions and Features	Allow for descriptions on all transactions.	Off the Shelf				
APP-039	2	Application Architecture	Functions and Features	Provide/support spell check capability.	Off the Shelf				
APP-040	2	Application Architecture	Functions and Features	Support text formatting in the system (i.e., the ability to support mixed case letters, word wrap, line wrap, and character count when there is a limit, etc.)	Off the Shelf				
APP-041	2	Application Architecture	Functions and Features	Provide query features that supports alternate field lookup (e.g., using item name to look up item code or project name to look up project number).	Off the Shelf				

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APP-042	2	Application Architecture	Functions and Features	Provide table look-up fields that can be linked to or refer to other tables.	Off the Shelf with Configuration					
APP-043	2	Application Architecture	Functions and Features	Utilize effective and expiration dates to version reference tables and data.	Off the Shelf with Configuration					
APP-044	1	Application Architecture	Functions and Features	Provide capability to add, change, and inactivate reference tables in both batch and on-line mode.	Off the Shelf with Configuration					
APP-045	2	Application Architecture	Functions and Features	Provide capability to recognize and capture rejected (by-passed) transactions for review, correction and reprocessing. Place batch loaded reference data into a suspended state if errors exist in non-key fields. This process should be non-blocking and the processing should continue.	Modification to Base Code	Small				
APP-046	2	Application Architecture	Functions and Features	Provide capability to perform cross-reference table validations.	Off the Shelf with Configuration					
APP-047	1	Application Architecture	Functions and Features	Support use of "digital signatures" or "on-line approvals" to initiate or approve a business event within the system using user authentication within the system via validation of user credentials at the time the user signed on to the system; Support these digital signatures for approvals and rejections of workflow tasks.	Off the Shelf with Configuration					The Delasoft modules support electronic signature and approval processes.
APP-048	2	Application Architecture	Functions and Features	Provide ability to integrate with third-party eSignature solutions to support electronic signature approval processes initiated within the software solution.	Off the Shelf with Configuration					The Delasoft module may be integrated with third party eSignature solutions.
APP-049	2	Application Architecture	Functions and Features	Support mass changes to defined groups of transactions or data with appropriate audit trail.	Modification to Base Code	Small				
APP-050	2	Application Architecture	Functions and Features	Provide capability to review and approve a batch load prior to execution.	Modification to Base Code	Small				
APP-051	2	Application Architecture	Functions and Features	Provide capability to back out (rollback) previously executed batch loads.	Modification to Base Code	Small				
APP-052	2	Application Architecture	Functions and Features	Provide capability to define/set-up batch checkpoints.	Modification to Base Code	Small				
APP-053	2	Application Architecture	Functions and Features	Provide a sequential unique identifier for a batch process.	Off the Shelf					
APP-054	3	Application Architecture	Functions and Features	Support ability to add printable and non-printable notes to any field or document.	Off the Shelf with Configuration					
APP-055	2	Application Architecture	Functions and Features	Support creation of user-defined form letters or business forms using system-defined naming standards configurable by the system administrator or authorized user.	Off the Shelf					
APP-056	2	Application Architecture	Functions and Features	Provide capability to set up standard document and letter templates at the department/business unit level for use throughout the system with names, titles, labels, pre-defined backgrounds, etc. using system-defined naming standards configurable by the system administrator or authorized user.	Off the Shelf					
APP-057	2	Application Architecture	Functions and Features	Provide automatic date and time stamping of all documents generated by the system.	Off the Shelf					
APP-058	2	Application Architecture	Functions and Features	Provide functionality to copy a document in order to create a new document of the same type.	Off the Shelf					
APP-059	2	Application Architecture	Functions and Features	Generate special clauses on documents as defined by users or by standard clauses.	Off the Shelf					
APP-060	2	Application Architecture	Functions and Features	Provide ability to view multiple different file formats for attachment in all modules/functions including, but not limited to, Microsoft Office products, PDF's, and image file formats.	Off the Shelf					
APP-061	2	Application Architecture	Functions and Features	Support ability to use the "print screen" function on any screen.	Off the Shelf					
APP-062	1	Application Architecture	Functions and Features	Provide ability for authorized end-users to import from a .xls, .csv, or a text file meeting import formatting requirements.	Modification to Base Code	Small				
APP-063	1	Application Architecture	Workflows	Provide tools to model and modify pre-existing workflows or create new workflows (the workflows shall be implementable globally or by specific business units).	Off the Shelf with Configuration					
APP-064	1	Application Architecture	Workflows	Support establishment of user-defined rules based workflows for any system event or transaction.	Off the Shelf with Configuration					The Delasoft modules provide for definition of complex business rules to be executed based on typical trigger events.
APP-065	2	Application Architecture	Workflows	Provide bi-directional electronic routing of documents for approval or other tasks through workflow.	Off the Shelf with Configuration					
APP-066	2	Application Architecture	Workflows	Support routing of workflow to multiple destinations based on various user-defined criteria.	Off the Shelf with Configuration					

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APP-067	2	Application Architecture	Workflows	Integrate with WVOT identity management solution (Active Directory) to access organizational hierarchies and incumbent information for current employees in order to establish workflow routing.	Off the Shelf with Configuration					
APP-068	2	Application Architecture	Workflows	Support parallel approvals and single-threaded approvals in the same approval path.	Off the Shelf with Configuration					
APP-069	2	Application Architecture	Workflows	Reverse any approvals and return the workflow transaction to the originating user and any other users who had previously approved the transaction in the event that one or more reviewers disapproves a transaction.	Off the Shelf with Configuration					
APP-070	2	Application Architecture	Workflows	Allow workflow destination to be defined as specific users or a class of users or by using other user-defined criteria.	Off the Shelf with Configuration					
APP-071	1	Application Architecture	Workflows	Allow for cloning/extending preconfigured workflows to meet specific business requirements.	Modification to Base Code	Small				
APP-072	1	Application Architecture	Workflows	Support definition of workflow events based on user-defined criteria including transaction code; department/business unit; user roles and responsibilities; user position in organization; data values and other user-defined values or parameters.	Off the Shelf with Configuration					
APP-073	2	Application Architecture	Workflows	Allow user-defined standard approval timeframes.	Off the Shelf with Configuration					
APP-074	2	Application Architecture	Workflows	Allow user-defined alternative approval paths.	Off the Shelf with Configuration					
APP-075	1	Application Architecture	Workflows	Support multiple levels of approvals for transactions based on profile security and other user-defined criteria.	Off the Shelf with Configuration					
APP-076	1	Application Architecture	Workflows	Allow a user to enter descriptive information in a note field or to upload and attach a file (Microsoft Office, Microsoft Office 365, PDF, JPEG, etc.) to content items within the workflow and store these notes with user id and date/time stamp.	Off the Shelf with Configuration					
APP-077	2	Application Architecture	Workflows	Allow workflows to be designated as either 'informational' or 'action (such as approval)' required.	Off the Shelf with Configuration					
APP-078	2	Application Architecture	Workflows	Ensure a transaction is not finalized until all required approval workflows are complete.	Off the Shelf with Configuration					
APP-079	2	Application Architecture	Workflows	Allow a workflow to be designed to support either simultaneous actions or require consecutive actions, as defined by an authorized user.	Off the Shelf with Configuration					
APP-080	1	Application Architecture	Workflows	Provide a dashboard which displays the status of workflows including workflows pending for a user-defined period of time.	Off the Shelf with Configuration					
APP-081	1	Application Architecture	Workflows	Provide capability for personnel, or their supervisors to delegate their approval authority to another individual or work group, along with allowing the delegate to access their "inbox" should that be desired by the user. This function is primarily to allow for coverage when an employee is out on leave.	Modification to Base Code	Small				
APP-082	2	Application Architecture	Workflows	Provide email notification of workflow items.	Off the Shelf with Configuration					
APP-083	2	Application Architecture	Workflows	Provide capability to allow an application system administrator to authorize a user to be able to opt in/opt out of email notifications.	Modification to Base Code	Small				
APP-084	2	Application Architecture	Workflows	Allow user with appropriate authorization to disable email notification (opt in/opt out capability).	Modification to Base Code	Small				
APP-085	2	Application Architecture	Workflows	Provide integrated workflow error handling.	Off the Shelf with Configuration					
APP-086	2	Application Architecture	Workflows	Track workflow approvals and rejections.	Off the Shelf with Configuration					
APP-087	1	Application Architecture	Workflows	Support various user-defined transaction statuses, including approved, rejected, pending, under reconsideration, etc.	Off the Shelf with Configuration					
APP-088	1	Application Architecture	Workflows	Provide for the display of the status of items submitted to a workflow at any time.	Off the Shelf with Configuration					
APP-089	1	Application Architecture	Workflows	Maintain document status based on routing and approvals and allow authorized users to determine where the document is in the routing process.	Off the Shelf with Configuration					
APP-090	2	Application Architecture	Workflows	Notify users automatically via email when items in their "inbox" have gone unapproved for a user defined period of time.	Off the Shelf with Configuration					
APP-091	2	Application Architecture	Workflows	Route transactions automatically to a workgroup after a specific time of inaction (based on user-defined criteria).	Off the Shelf with Configuration					

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APP-092	2	Application Architecture	Workflows	Allow steps in the workflow to be bypassed by allowing approvers higher in the approval chain to approve transactions. Should this transaction be in the "inbox" of an approver lower in the approval chain automatically remove transaction from lower approver's inbox.	Modification to Base Code	Small		
APP-093	2	Application Architecture	Workflows	Support the use of a "master approver" for each workflow who may approve a transaction at any time whether included in the normal workflow or not.	Off the Shelf with Configuration			
APP-094	1	Application Architecture	Mobile Technology	System should be "mobile-friendly" for mobile platforms/environments including IOS and Android.	Off the Shelf			
APP-095	1	Application Architecture	Mobile Technology	Utilize responsive design to ensure that web pages display accurately on a range of screen sizes and aspect ratios including smart phones, desktops, tablets, etc.	Off the Shelf			The Delsoft modules support responsive design for web components.
APP-096	1	Application Architecture	Security	Comply with WV DOT and any applicable State of West Virginia security policies.	Off the Shelf with Configuration			
APP-097	1	Application Architecture	Security	Comply with encryption requirements in Internal Revenue Service Publication 1075.	Off the Shelf with Configuration			
APP-098	1	Application Architecture	Security	Comply with Federal Information Processing Standard (FIPS) 140 or most current.	Off the Shelf with Configuration			
APP-099	1	Application Architecture	Security	Comply with ISO/IEC 15408: Common Criteria for Information Technology Security Evaluation.	Off the Shelf with Configuration			
APP-100	1	Application Architecture	Security	Support digital certificates.	Off the Shelf with Configuration			
APP-101	1	Application Architecture	Security	Support public key infrastructure (PKI).	Modification to Base Code	Small		
APP-102	1	Application Architecture	Security	Support Transport Layer Security (TLS) > 1.2.	Off the Shelf with Configuration			
APP-103	1	Application Architecture	Security	Provide an efficient, flexible way to control and administer access to all components of the solution using role-based security.	Off the Shelf			
APP-104	1	Application Architecture	Security	Provide role-based security and privileges and access rights by position and department/business unit.	Off the Shelf			
APP-105	1	Application Architecture	Security	Provide granular management and administrator control over transactions, forms access, field updates, row locking, interfacing events, data queries and other types of authorization using role-based security.	Off the Shelf			
APP-106	1	Application Architecture	Security	Provide capability to establish "security profiles" or templates by user-defined job category or role, and to apply the templates to individuals and to user groups to grant privileges.	Modification to Base Code	Small		
APP-107	1	Application Architecture	Security	Restrict display of system functions upon sign-in to the software to only the options, functions, menu selections, screens, and data fields to which the user or business unit has rights to.	Off the Shelf			
APP-108	1	Application Architecture	Security	Provide ability to ensure that if two or more distinct security roles are needed to perform a business function and all needed roles are held by the same user, the user must log on separately under each security role in order to perform the full business transaction. Further, if a user has approval privileges over a business process that they also enter data for, the user shall NOT be able to approve their own work or requests. User-generated work or requests must be approved by a different/independent approver (such as a supervisor).	Modification to Base Code	Small		
APP-109	1	Application Architecture	Security	Provide ability for the system with the security function of the application to allow an authorized user to configure available controls, actions, and access for interfaces based upon user role / privileges.	Off the Shelf			
APP-110	1	Application Architecture	Security	Integrate with Active Directory to define users to the system, including following user information: unique user identification; user first name; user last name; department/business unit; user email address; and effective date of user access to the system.	Off the Shelf with Configuration			
APP-111	1	Application Architecture	Security	Allow the system administrator or other authorized users to define user access profiles based on job responsibilities to ensure separation of duties; the system administrator must be able to define a group name, a description of the role and capabilities of the user group. Additional fields may be offered for further separation, finer grouping.	Off the Shelf with Configuration			

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APP-129	1	Application Architecture	Audit Trail	Provide an audit trail for each interface program which shows: user or program initiating an interface, the date and time of interface execution and the interface completion status (Completed, Completed with Errors, Cancelled, Ended with Errors, etc.).	Modification to Base Code					
APP-130	2	Application Architecture	Archiving	Provide reporting and analysis tools which guide a system data administrator in determining which data is appropriate and safe to archive.	Modification to Base Code	Small				
APP-131	2	Application Architecture	Archiving	Provide capability to store specific data elements for an indefinite period of time while other data may be able to be archived after user-defined periods based on record retention policies.	Modification to Base Code	Small				
APP-132	2	Application Architecture	Archiving	Provide authorized user with ability to mark (and unmark) records for deletion but not removed database until archived.	Modification to Base Code	Small				
APP-133	2	Application Architecture	Archiving	Provide capability to purge, archive, and restore inactive records based on user-defined criteria and tracking history.	Modification to Base Code	Small				
APP-134	2	Application Architecture	Archiving	Allow system administrator to define archiving criteria for different types of data.	Modification to Base Code	Small				
APP-135	2	Application Architecture	Archiving	Provide an automated archiving routine that archives data following the user-defined archiving rules; the process shall be able to be scheduled or manually initiated by an authorized user.	Modification to Base Code	Small				
APP-136	2	Application Architecture	Archiving	Provide for restoration of archived data by various parameters including the date range of the archiving process and other user-defined business rules.	Modification to Base Code	Small				
APP-137	2	Application Architecture	Archiving	Provide a flexible, automated archival routine to archive inactive reference data; this archival routine must validate that other table entries do not use the inactive data before archiving it and maintain overall system referential data integrity.	Modification to Base Code	Small				
APP-138	1	Application Architecture	Help	Provide a centrally stored and maintained system wide help function.	Off the Shelf					The Defasoft modules support context sensitive help content that can be modified by the administrative users.
APP-139	1	Application Architecture	Help	Provide context-sensitive, field level on-line help features for all screen elements, screen errors, and error codes.	Off the Shelf					
APP-140	2	Application Architecture	Help	Utilize an on-line help feature which directs the user either to a help screen specific to the field they are on if help is available for that field or to a help screen which is specific to the screen they are on if no field level help is available.	Off the Shelf					
APP-141	1	Application Architecture	Help	Provide table-driven error message handling.	Off the Shelf					
APP-142	1	Application Architecture	Help	Allow authorized users to modify and maintain error message text.	Off the Shelf					
APP-143	2	Application Architecture	Help	Ensure an error message points the user to the field in error (e.g., by identifying the field name, field number or providing a link to tab to the field).	Off the Shelf					
APP-144	2	Application Architecture	Help	Provide capability to identify processing or navigation path for a screen.	Off the Shelf					
APP-145	2	Application Architecture	Help	Allow customization of help files provided with the system by the application system administrator or other authorized users to incorporate WV DOT-wide or business unit/department specific information.	Off the Shelf					
APP-146	2	Application Architecture	Help	Allow customization of help files by the system administrator or other authorized user by department/business unit or by roles and responsibilities within the proposed system; users must be able to modify the part of the help text that they are authorized to maintain without impacting other help text.	Off the Shelf					
APP-147	2	Application Architecture	Help	Ensure all customized help text and files carry forward automatically during system updates and upgrades.	Off the Shelf					
APP-148	1	Application Architecture	User Documentation	Provide user documentation that is comprehensive, clear and easy to use (e.g., user documentation must provide quick answers to questions regarding the navigation of application screens, execution of pre-defined reports, and use of the software query capabilities). It must also contain clear and thorough descriptions of all screens and batch processing functions, screen data, programs, system reports, and any processing parameters.	Off the Shelf					
APP-149	1	Application Architecture	User Documentation	Provide all system documentation and manuals electronically.	Off the Shelf					

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APP-150	1	Application Architecture	User Documentation	Provide search functions for on-line documentation, across all documentation and within component pieces of the on-line documentation.	Off the Shelf								
APP-151	2	Application Architecture	User Documentation	Allow system administrator to authorize components of the system documentation to be available for download by authorized users.	Modification to Base Code	Small							
APP-152	2	Application Architecture	User Documentation	Provide capability to allow authorized users to download user documentation approved by the system administrator for distribution as one or multiple PDF files.	Modification to Base Code	Small							
APP-153	2	Application Architecture	User Documentation	Enable users to incorporate user-defined documentation into system documentation (e.g., user procedures, business rules, etc.), which is accessible in the same manner as documentation from the software provider.	Off the Shelf								
APP-154	2	Application Architecture	User Documentation	Support version control for user-defined documentation.	Modification to Base Code	Small							
APP-155	1	Application Architecture	Upgradability	Provide capability for all upgrade and patched processes for the system to automatically re-apply configurations and customizations made by WV DOT. If Should these customizations/configurations have to manually be re-applied, the system shall identify these exceptions for manual re-application before applying any upgrade/patch software.	Off the Shelf								

WVDOT Right-of-Way, Utilities and Railroad Management System
Technical Architecture Reqmnts

Req. #	Priority	Category	Sub-Category	Business (Functional) Requirement	Vendor Response	Customization Estimate, if Applicable	Comments/Notes
TEC-001	1	Technical Architecture	General	Provide a solution architecture with expandable configurations and customizations, along with the capability to scale more or less for concurrent users and data storage as needed.	Off the Shelf		The Delasoft modules are designed for flexibility and extensibility. The proposed cloud hosted environment provides scalability and performance management without redeployment.
TEC-002	1	Technical Architecture	General	Utilize a vendor independent design that is based on non-proprietary technology and does not require the solution to be operated on proprietary hardware or operating system platforms.	Off the Shelf		
TEC-003	1	Technical Architecture	General	Implement a system design architected to allow system availability on a continuous basis, (i.e., 24x7). Support high-availability including during patches and updates. Provide a robust data recovery architecture design that minimizes system downtime.	Off the Shelf		
TEC-004	1	Technical Architecture	General	Utilize a service-oriented architecture (SOA) to facilitate seamless integration with heterogeneous internal and external systems.	Off the Shelf		
TEC-005	1	Technical Architecture	General	Provide the SOA capability which is platform and protocol independent and complies with Advancing Open Standards for the Information Society (OASIS) standards such as WS-Security, WS-Reliability, etc. and utilizing other open-standards (such as JSON, XML, OAuth and SAML).	Off the Shelf		
TEC-006	2	Technical Architecture	General	Support virtualization for all tiers.	Off the Shelf		
TEC-007	1	Technical Architecture	General	Provide a browser-based interface.	Off the Shelf		
TEC-008	1	Technical Architecture	General	Deliver content via the current and most recent previous supported browser versions that include but are not limited to Microsoft Edge, Google Chrome, Mozilla Firefox and Safari.	Off the Shelf		
TEC-009	1	Technical Architecture	General	Ensure that content can be delivered via a web browser without requiring browser security settings to be lowered beyond typical industry standards in order for system functionality to perform properly.	Off the Shelf		
TEC-010	1	Technical Architecture	General	Deliver content via browser without Active X controls or plug-in support (such as Java Runtime Environment, Adobe Flash, etc.)	Off the Shelf		
TEC-011	1	Technical Architecture	General	Deliver content via web browser capability available on the iOS and Android.	Off the Shelf		
TEC-012	2	Technical Architecture	General	Ensure any additional required software required on a desktop can be deployed through industry standard Office Automation (push technology).	Off the Shelf		
TEC-013	2	Technical Architecture	General	Support the following character sets: UTF-8 Unicode, UTF-16 Unicode, and ASCII.	Off the Shelf		
TEC-014	2	Technical Architecture	General	Utilize application stack at all points in terms of the operating system, network, database, desktop, and storage.	Off the Shelf		
TEC-015	2	Technical Architecture	General	Ensure Web and security server is 64 bit.	Off the Shelf		
TEC-016	2	Technical Architecture	Enterprise Application Integration	Support connectivity services through TCP/IP IPPB v4 IPPB v6.	Off the Shelf		
TEC-017	2	Technical Architecture	Enterprise Application Integration	Provide connectivity across and between WVDOT's network zones.	Off the Shelf		
TEC-018	2	Technical Architecture	Enterprise Application Integration	Provide communication services that guarantee message delivery and handles queuing and encryption for various types of communication (e.g., publish and subscribe, request/reply, etc.)	Off the Shelf		
TEC-019	2	Technical Architecture	Enterprise Application Integration	Provide configurable data-transformation services to handle data validation, calculations, lookups, padding, scrambling, truncation, etc.	Off the Shelf		
TEC-020	2	Technical Architecture	Enterprise Application Integration	Provide ability to link software solution business process flows with business process flows in other state and WVDOT applications to support automating a business transaction which crosses application systems (for example, linking a workflow with an ERP workflow such as payments to outside entities).	Off the Shelf with Configuration		
TEC-021	2	Technical Architecture	Data Integration	Provide capability for bulk data uploads/imports from CSV or through API calls.	Off the Shelf with Configuration		
TEC-022	2	Technical Architecture	Data Integration	Support multiple data-transfer methods such as XML, JSON, CSV and flat files (e.g. ASCII, variable and/or fixed length, comma-delimited, etc.)	Off the Shelf with Configuration		

WVDOT Right-of-Way, Utilities and Railroad Management System
Technical Architecture Reqmnts

TEC-023	2	Technical Architecture	Data Integration	Provide capability of exposing business objects and processes as Web services through robust technical frameworks such as RESTful JSON microservices. Web services, APIs, etc., must maintain the same referential integrity as batch and on-line user transactions. This should include Application Programming Interfaces (API) and API programming documentation containing proper use (such as related RESTful commands) and valid parameters and parameter values that may be utilized, along with expected return data structure and example(s) (XML, JSON, etc...). As a substitute to the latter, in lieu of providing an API with documentation (or additionally), provide access directly to the database, tables, and columns with documentation of database table structure, table purpose, and associated ER diagrams.	Off the Shelf with Configuration	
TEC-024	2	Technical Architecture	Data Integration	Support data encryption where appropriate based on user-defined business rules following Advanced Encryption Standards (AES) for data both in transit and at rest in all file structures.	Off the Shelf with Configuration	
TEC-025	2	Technical Architecture	Data Integration	Encrypt any data with personally identifiable information in transit and at rest in all file structures.	Off the Shelf with Configuration	
TEC-026	2	Technical Architecture	Data Integration	Provide capability for data in the software solution to be extensible to authorized users from both an exposure and consumption standpoint.	Off the Shelf with Configuration	
TEC-027	2	Technical Architecture	Data Integration	Provide capability to execute interfaces with other systems on a pre-defined schedule or on the request of an authorized user.	Off the Shelf with Configuration	
TEC-028	2	Technical Architecture	Data Integration	Edit interfaced data by applying the same business rules that are defined for the equivalent transaction entered through the system.	Off the Shelf with Configuration	
TEC-029	2	Technical Architecture	Data Integration	Generate an error report for any validation issues or other errors identified during execution of a data load or an interface program.	Off the Shelf with Configuration	
TEC-030	2	Technical Architecture	Data Integration	Display validation errors on-line within a job history function or print in a report format at user option.	Modification to Base Code	Small
TEC-031	2	Technical Architecture	Data Integration	Place records not passing validation into a suspense file or table within the software solution.	Modification to Base Code	Small
TEC-032	2	Technical Architecture	Data Integration	Allow correction of suspended records within the software solution.	Off the Shelf with Configuration	
TEC-033	2	Technical Architecture	Data Integration	Provide capability to validate data during both the initial load step and during processing steps.	Off the Shelf with Configuration	
TEC-034	2	Technical Architecture	Data Integration	Allow the system administrator or other authorized users to browse the suspense file in the system.	Modification to Base Code	Small
TEC-035	2	Technical Architecture	Data Integration	Provide facilities for verification and batch controls tools to ensure the complete file was received and that the file was not a duplicate.	Modification to Base Code	Small
TEC-036	2	Technical Architecture	ETL Tools	Provide data integration and data management tools with a range of extract, transform, and load (ETL) capabilities.	Modification to Base Code	Small
TEC-037	2	Technical Architecture	ETL Tools	Support ability to integrate third-party ETL tools to perform ETL functions.	Modification to Base Code	Small
TEC-038	2	Technical Architecture	ETL Tools	Utilize scripting or other object-oriented structured languages to define advanced transformation routines/procedures.	Modification to Base Code	Small
TEC-039	2	Technical Architecture	ETL Tools	Provide 'data exchange management' to schedule and monitor inbound and outbound files, notify appropriate contacts in the event of problems, automatically detect duplicate files, and perform other data interchange management functions.	Modification to Base Code	Small
TEC-040	2	Technical Architecture	ETL Tools	Validate and handle exceptions during transformation.	Modification to Base Code	Small
TEC-041	2	Technical Architecture	ETL Tools	Verify and maintain referential integrity as part of any transformation process.	Modification to Base Code	Small
TEC-042	2	Technical Architecture	ETL Tools	Provide the capability to override the default source mapping and use specific SQL statements.	Modification to Base Code	Small
TEC-043	2	Technical Architecture	ETL Tools	Provide ability to map data from multiple source systems and into multiple target source systems.	Off the Shelf with Configuration	
TEC-044	2	Technical Architecture	ETL Tools	Provide ability to schedule and monitor the extraction, cleansing, transformation, and loading processes.	Modification to Base Code	Small
TEC-045	2	Technical Architecture	ETL Tools	Provide ability to rebuild/reload transactions from a specific date/time forward.	Modification to Base Code	Small
TEC-046	1	Technical Architecture	System Tools	Provide report design and generation tools within the system solution.	Off the Shelf	
TEC-047	1	Technical Architecture	System Tools	Provide end-user interface design tools within the system solution.	Off the Shelf	
TEC-048	2	Technical Architecture	System Tools	Provide tools for system monitoring within the system solution.	Modification to Base Code	Small

9/28/2021

WV DOT Right-of-Way, Utilities and Railroad Management System
Technical Architecture Reqmnts

TEC-049	2	Technical Architecture	System Tools	Provide configuration management tools within the system solution.	Off the Shelf		
TEC-050	2	Technical Architecture	System Tools	Provide source management tools within the system solution.	Off the Shelf		
TEC-051	2	Technical Architecture	System Tools	Provide ability to work with third-party configuration management and source management tools.	Modification to Base Code	Small	
TEC-052	2	Technical Architecture	System Tools	Provide tools for Application Program Interface (API) maintenance within the system solution.	Off the Shelf with Configuration		
TEC-053	1	Technical Architecture	Database	Maintain referential integrity of data through either database referential integrity declarations or application code.	Off the Shelf with Configuration		
TEC-054	1	Technical Architecture	Database	Support data replication, load balancing and synchronization across multiple physical or virtual servers as appropriate.	Off the Shelf with Configuration		
TEC-055	1	Technical Architecture	Database	Leverage DBMS database features and database and application design to reduce contention between updates by online users and those of concurrently running batch processes.	Off the Shelf		
TEC-056	1	Technical Architecture	Database	Ensure that on-line search queries will not be delayed by waiting for locks to be released.	Off the Shelf with Configuration		
TEC-057	1	Technical Architecture	Database	Ensure in a two user scenario when both users retrieve data and attempt to update data one after another, to avoid loss of updates and/or to avoid overwriting of each other's data the system must notify the second user as the data is being updated by the first user (provide selection of "first in wins", last, etc.).	Off the Shelf with Configuration		
TEC-058	1	Technical Architecture	Database	Ensure that in a two transaction read/update cycle, the user will always update ONLY what was being read, avoiding the so-called 'update collision' or 'deadly embrace'.	Off the Shelf with Configuration		
TEC-059	1	Technical Architecture	Database	Support automatic "clean up" of partial database updates after suspended network sessions or after other failures.	Off the Shelf with Configuration		
TEC-060	2	Technical Architecture	Database	Allow database structure changes to be made with a minimal impact to system availability.	Off the Shelf		
TEC-061	1	Technical Architecture	Database	Provide utilities which support automatic replication of table updates to multiple databases; provide replication of tables across application instances (test, training, dev, QA, prod, etc.).	Modification to Base Code	Small	
TEC-062	1	Technical Architecture	Database	Support record-locking at the row level.	Off the Shelf		
TEC-063	1	Technical Architecture	Database	Support configuration of data attributes by the system administrator.	Off the Shelf		
TEC-064	1	Technical Architecture	Database	Provide structured query language (SQL) capabilities for database queries.	Off the Shelf		
TEC-065	2	Technical Architecture	Database	Include new data items automatically in migration paths during software upgrades.	Off the Shelf		
TEC-066	1	Technical Architecture	Reliability	Provide a solution which is architected to enable support for 99.99% availability of the production environment for online inquiry and updates seven days a week (other than for a defined maintenance window and other scheduled outages approved by WV DOT).	Off the Shelf		
TEC-067	1	Technical Architecture	Performance	Provide a solution which is architected to support up to 300 concurrent users across all system functions; respondent must be able to provide WV DOT with documented evidence of the ability of its proposed system solution to support these user volumes at the required performance levels as part of the evaluation and selection process.	Off the Shelf		
TEC-068	1	Technical Architecture	Performance	Provide a solution which is architected to fully process a transaction within the application and database environments within one second of receipt of the transaction 75% of the time and all transactions within five seconds for 300 concurrent users.	Off the Shelf		
TEC-069	1	Technical Architecture	Performance	Provide a solution which is architected to support best practice load-balancing techniques.	Off the Shelf		
TEC-070	1	Technical Architecture	Performance	Ensure that batch processing does not adversely impact on-line responsiveness or availability.	Off the Shelf		
TEC-071	1	Technical Architecture	Performance	Provide a solution architected to support implementation of application controlled parallel batch processing.	Modification to Base Code	Small	
TEC-072	1	Technical Architecture	Performance	Provide support for user session isolation such that a failure in one session has no impact on other user sessions.	Off the Shelf		
TEC-073	1	Technical Architecture	Performance	Provide a solution architected to support access to data for pre-defined reports, ad-hoc queries, and business intelligence without impacting online transaction performance.	Off the Shelf		

9/28/2021

WV DOT Right-of-Way, Utilities and Railroad Management System
Technical Architecture Reqmnts

TEC-074	2	Technical Architecture	Performance	Support utilization of industry leading third-party performance monitoring tools for real-time monitoring by administrators of response time, system use and capacity, concurrent users, and system errors.	Modification to Base Code	Medium	
TEC-075	2	Technical Architecture	Performance	Support utilization of industry leading third-party performance testing tools with proposed software solution to verify compliance with performance requirements.	Off the Shelf with Configuration		
TEC-076	1	Technical Architecture	Performance	Provide ability to integrate with DBMS tools which allow the database administrator or authorized user to tune the system for performance.	Off the Shelf		
TEC-077	2	Technical Architecture	Performance	Provide for an automatic timeout for ad hoc queries (e.g., 10 minutes) configurable by the system administrator.	Modification to Base Code	Small	
TEC-078	1	Technical Architecture	Business Continuity	Provide an architecture which supports fail-over to a parallel load-balanced environment on a real-time basis.	Off the Shelf		
TEC-079	1	Technical Architecture	Business Continuity	Provide a system design architected to ensure that normal system operations are restored within four hours of a catastrophic disruption of a production system component 99% of the time.	Off the Shelf		
TEC-080	1	Technical Architecture	Business Continuity	Provide the capability to perform full backups, incremental backups, and recovery capabilities for data and application components. Back-ups shall not require maintenance windows; backups shall be able to function in the background of a production SOA or clustered environment and not impact system availability.	Off the Shelf		
TEC-081	1	Technical Architecture	Business Continuity	Provide a system design which supports the capability to provide disaster recovery at an off-site location.	Off the Shelf		
TEC-082	1	Technical Architecture	Business Continuity	Allow for maintenance of a current back-up of the system solution including application data and system tables and configurations to be utilized for restoration in the event of catastrophic failure and loss of data.	Off the Shelf		
TEC-083	1	Technical Architecture	Supportability	Construct using current but mature industry-standard application development tools, techniques and standards that can be maintained for the expected life of the system.	Off the Shelf		
TEC-084	1	Technical Architecture	Supportability	Allow at a minimum for configuration across multiple environments including production, patch, user acceptance test, system test, user training, development and sand box.	Off the Shelf		
TEC-085	1	Technical Architecture	Supportability	Provide production support for the last two major releases of the proposed software solution.	Off the Shelf		
TEC-086	1	Technical Architecture	Networking	Support execution of the proposed software solution over a TCP/IP network with a minimum speed of 10mb/sec.	Off the Shelf		
TEC-087	1	Technical Architecture	Networking	Identify access requirements through firewalls and follow standard port designations, where possible.	Off the Shelf		
TEC-088	1	Technical Architecture	Custom Development	Ensure any program code provided by the systems integrator or any of its software providers within the proposed system solution passes industry standard vulnerability checks prior to promotion into the WV DOT environment.	Off the Shelf		
TEC-089	2	Technical Architecture	Custom Development	Allow authorized technical staff to create new tables.	Off the Shelf		
TEC-090	2	Technical Architecture	Custom Development	Allow authorized technical staff to create new fields.	Off the Shelf		
TEC-091	2	Technical Architecture	Custom Development	Allow authorized technical staff to create new objects.	Off the Shelf		
TEC-092	2	Technical Architecture	Custom Development	Allow authorized technical staff to change field structure.	Off the Shelf		
TEC-093	2	Technical Architecture	Custom Development	Allow for identification/reporting of new user-defined tables.	Off the Shelf with Configuration		
TEC-094	2	Technical Architecture	Custom Development	Allow for identification/reporting of new user-defined fields.	Off the Shelf with Configuration		
TEC-095	2	Technical Architecture	Custom Development	Allow for identification/reporting of new user-defined objects.	Off the Shelf with Configuration		
TEC-096	2	Technical Architecture	Custom Development	Support inclusion of any user-defined or developed objects (user-defined tables, fields, and other objects, etc.) in the upgrade path.	Off the Shelf		
TEC-097	2	Technical Architecture	Job Scheduling and Processing	Provide a central enterprise job scheduler which can schedule jobs (across platforms and across multiple servers within a platform).	Modification to Base Code	Small	
TEC-098	1	Technical Architecture	Job Scheduling and Processing	Integrate with a software scheduler to provide job scheduling functionality for the system solution.	Modification to Base Code	Small	
TEC-099	1	Technical Architecture	Job Scheduling and Processing	Provide capability to design/manage a batch job stream with multiple dependencies.	Modification to Base Code	Small	

WVDOT Right-of-Way, Utilities and Railroad Management System
Technical Architecture Reqmnts

TEC-100	2	Technical Architecture	Job Scheduling and Processing	Provide capability to notify designated users via email or text based on job and job completion status. The user shall be able to tailor whether or not they see a notification based on statuses such as Completed, Completed with Errors, Incomplete, Failed, Not run. For example, a user may elect to not see any notifications for Completed jobs, just the exceptions like Errors, Incomplete, Failed, etc.	Modification to Base Code	Small
TEC-101	2	Technical Architecture	Job Scheduling and Processing	Provide capability to utilize job scheduling tools to automate administrative tasks such as database backups or regular report production.	Modification to Base Code	Small
TEC-102	2	Technical Architecture	Job Scheduling and Processing	Provide ability to establish job dependencies and control subsequent job execution based on user-defined condition codes.	Modification to Base Code	Small
TEC-103	2	Technical Architecture	Job Scheduling and Processing	Allow authorized users to control priority of the batch processes.	Modification to Base Code	Small
TEC-104	2	Technical Architecture	Job Scheduling and Processing	Allow authorized users to control job start times.	Modification to Base Code	Small
TEC-105	2	Technical Architecture	Job Scheduling and Processing	Provide an audit trail of job execution at a minimum noting the job's name, start time, end time, and status.	Modification to Base Code	Small
TEC-106	2	Technical Architecture	Job Scheduling and Processing	Allow authorized user to modify job status (e.g., changing status of a job to "Complete", etc.).	Modification to Base Code	Small
TEC-107	2	Technical Architecture	Job Scheduling and Processing	Provide capability to establish job groups.	Modification to Base Code	Small
TEC-108	2	Technical Architecture	Job Scheduling and Processing	Provide capability to re-start a multi-step job from a user-defined point/step.	Modification to Base Code	Small
TEC-109	2	Technical Architecture	Job Scheduling and Processing	Allow authorized users to control job by transaction type.	Modification to Base Code	Small
TEC-110	2	Technical Architecture	Job Scheduling and Processing	Produce a log of job results and append to this log if the job re-runs.	Modification to Base Code	Small
TEC-111	2	Technical Architecture	Job Scheduling and Processing	Provide the capability to establish and maintain user-defined calendars of scheduled jobs.	Modification to Base Code	Small
TEC-112	2	Technical Architecture	Job Scheduling and Processing	Provide a suspense file for rejected batch transactions.	Modification to Base Code	Small
TEC-113	2	Technical Architecture	Job Scheduling and Processing	Allow an authorized user to delete rejected records from the suspense file.	Modification to Base Code	Small
TEC-114	2	Technical Architecture	Job Scheduling and Processing	Produce daily report of error transactions by system function.	Modification to Base Code	Small
TEC-115	2	Technical Architecture	Job Scheduling and Processing	Provide ability for an authorized user to edit a transaction in error and resubmit.	Modification to Base Code	Small
TEC-116	1	Technical Architecture	Technical Documentation	Provide comprehensive technical system documentation and technical manuals for the solution system including any third-party add-on modules included in the proposed system solution. Documentation shall include comprehensive technical system documentation and technical manuals for the proposed system including any third-party add-on modules included in the proposed system solution.	Off the Shelf	
TEC-117	1	Technical Architecture	Technical Documentation	Include program descriptions in technical system documentation.	Off the Shelf	
TEC-118	1	Technical Architecture	Technical Documentation	Include screen definitions and descriptions in technical system documentation.	Off the Shelf	
TEC-119	1	Technical Architecture	Technical Documentation	Include database definitions, logical data model, and record layouts in technical system documentation.	Off the Shelf	
TEC-120	1	Technical Architecture	Technical Documentation	Include audit trail management documentation in technical system documentation.	Off the Shelf	
TEC-121	1	Technical Architecture	Technical Documentation	Include security administration documentation in technical system documentation.	Off the Shelf	
TEC-122	1	Technical Architecture	Technical Documentation	Include installation documentation in technical system documentation.	Off the Shelf	
TEC-123	1	Technical Architecture	Technical Documentation	Include performance tuning documentation in technical system documentation.	Off the Shelf	
TEC-124	1	Technical Architecture	Technical Documentation	Include workflow process and administration documentation in technical system documentation.	Off the Shelf	
TEC-125	1	Technical Architecture	Technical Documentation	Include disaster recovery procedures in technical system documentation.	Off the Shelf	

○ REQUEST FOR PROPOSAL
CRFP DOT22*02
WV DOT ROW SYSTEM RFP

○ SIGNED ADDEMDUMS



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Request for Proposals
 Info Technology

Proc Folder: 912272			Reason for Modification:
Doc Description: ROW Management System - 62210C002			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-08-19	2021-09-14 13:30	CRFP 0803 DOT2200000002	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code: V50000018244

Vendor Name: DelaSoft INC.

Address: 82 Reads way

Street:

City: New Castle


State: DE Country: New Castle Zip: 19720

Principal Contact: Jay West

Vendor Contact Phone: 386-214-5164 Extension:

FOR INFORMATION CONTACT THE BUYER

Tara Lyle
 (304) 558-2544
 tara.l.yyle@wv.gov

Vendor Signature X  FEIN# 01-0722358 DATE 9/28/21

All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WEST VIRGINIA DIVISION OF HIGHWAYS, IS SOLICITING PROPOSALS FOR RIGHT OF WAY MANAGEMENT SYSTEM, PER THE ATTACHED DOCUMENTS.

QUESTIONS REGARDING THE SOLICITATION MUST BE SUBMITTED IN WRITING TO TARA.L.LYLE@WV.GOV PRIOR TO THE QUESTION PERIOD DEADLINE CONTAINED IN THE INSTRUCTIONS TO VENDORS SUBMITTING BIDS

ONLINE RESPONSES FOR THIS SOLICITATION ARE PROHIBITED

INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS OFFICE OF THE SECRETARY 1900 KANAWHA BLVD E, BLDG 5 RM A109 CHARLESTON WV 25305-0440 US	DIVISION OF HIGHWAYS EXECUTIVE DIVISION 1900 KANAWHA BLVD E, BLDG 5 CHARLESTON WV 25305-0430 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	DEVELOPMENT IMPLEMENTATION SUPPORT ROW SYSTEM				

Comm Code	Manufacturer	Specification	Model #
43233701			

Extended Description:

SOFTWARE DEVELOPMENT, INSTALLATION, SUPPORT AND TRAINING

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Technical questions due by 1:00 pm	2021-08-30

	Document Phase	Document Description	Page
DOT2200000002	Final	ROW Management System - 62210C002	3

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
Centralized Request for Proposals
Info Technology

Proc Folder: 912272		Reason for Modification:	
Doc Description: Addendum No. 1 - ROW Management System - 62210C002		Addendum No. 1 - to extend the bid opening to 09/23/2021 at 1:30 pm.	
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-09-08	2021-09-23 13:30	CRFP 0803 DOT2200000002	2

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code: VS0000019244
 Vendor Name: Delasoft INC.
 Address: 92 Reads Way
 Street:
 City: New Castle
 State: DE Country: New Castle Zip: 19720
 Principal Contact: Jay West
 Vendor Contact Phone: 386-214-5164 Extension:

FOR INFORMATION CONTACT THE BUYER
 Tara Lyle
 (304) 558-2544
 tara.l.yle@wv.gov

Vendor Signature X *Donald R. Lewis* FEIN# 01-0722358 DATE 9/28/21

offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Addendum No. 1 - to move the bid opening from 09/14/2021 to 09/23/2021. The bid opening time remains at 1:30 pm.

Responses to vendor questions will be issued by separate addendum.

ONLINE RESPONSES FOR THIS SOLICITATION ARE PROHIBITED

No other changes.

INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS OFFICE OF THE SECRETARY 1900 KANAWHA BLVD E, BLDG 5 RM A109 CHARLESTON WV 25305-0440 US	DIVISION OF HIGHWAYS EXECUTIVE DIVISION 1900 KANAWHA BLVD E, BLDG 5 CHARLESTON WV 25305-0430 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	DEVELOPMENT IMPLEMENTATION SUPPORT ROW SYSTEM				

Comm Code	Manufacturer	Specification	Model #
43233701			

Extended Description:
SOFTWARE DEVELOPMENT, INSTALLATION, SUPPORT AND TRAINING

SCHEDULE OF EVENTS		
Line	Event	Event Date
1	Technical questions due by 1:00 pm	2021-08-30

SOLICITATION NUMBER: CRFP DOT2200000002

Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as CRFP DOT2200000002 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

Description of Modification to Solicitation:

1. The bid opening has moved from 09/14/2021 to 09/23/2021. The bid opening time remains at 1:30 pm.
2. Responses to vendor questions will be issued under separate addendum.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DOT220000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Company

Authorized Signature

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.



Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Centralized Request for Proposals
 Info Technology

Proc Folder: 912272			Reason for Modification: Addendum No. 2
Doc Description: Addendum No. 2 - ROW Management System - 62210C002			
Proc Type: Central Master Agreement			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-09-21	2021-09-30 13:30	CRFP 0803 DOT2200000002	3


BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Customer Code: VS000018244
 Vendor Name: DelaSoft Inc.
 Address: 92 Reads way
 Street:
 City: New Castle
 State: DE Country: New Castle Zip: 19720
 Principal Contact: Jay West
 Vendor Contact Phone: 386-214-5164 Extension:

FOR INFORMATION CONTACT THE BUYER
 Tara Lyle
 (304) 558-2544
 tara.l.yle@wv.gov

Vendor Signature X  FEIN# 01-0722358 DATE 9/29/21

I offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Addendum No. 2 -

1. To provide responses to vendor questions. See attached pages.
2. To move the bid opening from 09/23/2021 to 09/30/2021. The bid opening time remains at 1:30 pm.

ONLINE RESPONSES FOR THIS SOLICITATION ARE PROHIBITED

No other changes.

INVOICE TO	SHIP TO
DIVISION OF HIGHWAYS OFFICE OF THE SECRETARY 1900 KANAWHA BLVD E, BLDG 5 RM A109 CHARLESTON WV 25305-0440 US	DIVISION OF HIGHWAYS EXECUTIVE DIVISION 1900 KANAWHA BLVD E, BLDG 5 CHARLESTON WV 25305-0430 US

Line	Comm Ln Desc	Qty	Unit of Measure	Unit Price	Total Price
1	DEVELOPMENT IMPLEMENTATION SUPPORT ROW SYSTEM				

Comm Code	Manufacturer	Specification	Model #
43233701			

Extended Description:

SOFTWARE DEVELOPMENT, INSTALLATION, SUPPORT AND TRAINING

SCHEDULE OF EVENTS

Line	Event	Event Date
1	Technical questions due by 1:00 pm	2021-08-30

SOLICITATION NUMBER: CRFP DOT2200000002

Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as CRFP DOT2200000002 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- Modify bid opening date and time
- Modify specifications of product or service being sought
- Attachment of vendor questions and responses
- Attachment of pre-bid sign-in sheet
- Correction of error
- Other

Description of Modification to Solicitation:

1. Responses to vendor questions attached. See attached pages.
2. The bid opening has moved from 09/23/2021 to 09/30/2021. The bid opening time remains at 1:30 pm.

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

CRFP DOT2200000002

ADDENDUM NO. 2

Questions:

- Q1: Attachment B, Cost-Price Proposal, Application Managed Services table – Please clarify the role expectations and service requirements for Managed Services as defined by the Agency. How does the Agency’s definition of Managed Services differ from most software providers’ standard post go-live product support services? Depending on the type and level of Managed Services requested by the Agency, these services may already be included with the software provider’s standard support.
- A1: Please refer to Section 4.2.2.32 of the CRFP for information on the requirements for Production Maintenance and Support (Application Managed Services). This is a requirement for the first year following implementation (Contract Year 3) and a State option for up to three (3) additional one-year renewals. Whereas we would expect annual software maintenance to cover product bug fixes and maintenance releases for the core software product, Production Maintenance and Support will cover maintenance and support for all services provided by the Vendor to the State. This would include working with the Vendor’s product support organization to ensure core software bug fixes are provided, installed and tested in a timely manner. It will also include ensuring that all custom software components beyond the core software are maintained – for example bug fixes or other system maintenance required to a system interface or custom workflows or extensions developed and implemented by the Vendor during the implementation project.
- Q2: Attachment B, Cost-Price Proposal, SaaS Solution/Annual Software Subscriptions tables – Please clarify the initial contract term. Section 3 in the General Terms and Conditions states the initial contract term will be one year (effective on award) plus up to three one-year renewals for a total of four years. The Annual Software Subscription tables in the Price Proposal indicate the contract will have a two-year Implementation and up to three one-year “Post Production Base Contract” renewals for a total of five years. Will the Agency consider making the initial contract term two years to cover the time required to implement the solution?
- A2: See revised page from Section 3 in the General Terms and Conditions to reflect a contract term of three years (up to two years for implementation and one year of post production support) plus up to three (3) one-year renewals.. The Cost-Price Proposal then requests pricing for the contract period, the potential option years, as well as additional years outside the potential contract term in order to obtain a six-year total cost of ownership for the solution.

Q3: General Terms and Conditions, Section 7 “Required Documents”, Performance Bond – Performance bonds are typically cost-prohibitive. This is particularly true for software providers whose margins are much thinner than construction companies. Will the Agency consider any alternatives to providing a performance bond?

A3: A performance bond is essential to ensuring timely delivery of the solution at a high-level of quality. The following paragraph is included in Section 7.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier’s checks, or irrevocable letters of credit. Any certified check, cashier’s check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

Q4: Section 4.2, Project Goals and Mandatory Requirements – The second paragraph indicates that the primary purpose of the RFP is to obtain a COTS system or a transfer system from another agency. Regarding a transfer from another agency, will only a transfer from a West Virginia agency be considered? Or does it also include transfers from other Departments of Transportation in the US?

A4: A transfer of a system utilized by another state department of transportation or another agency with a significant capital program involving right-of-way acquisition (airports, rail/transit agencies, etc.) would be considered.

Q5: Section 4.2.2.11, System Integrations/Interfaces – Will the Agency please provide sample integration files for each of the identified integrations so that the Proponents will better understand the effort level for system integrations?

A5: WVDOT is not able to provide sample integration files at this time. The information provided in the CRFP is the best available information at this time. Additional information will need to be developed by the selected Vendor as part of the implementation project.

Q6: Section 4.2.2.11, System Integrations/Interfaces – System integration typically requires detailed discussions (e.g., workshops) to provide a firm fixed price and scope. Will the Agency allow the Proponent to provide the workshops as part of the elaboration phase of the implementation project and then provide the defined system integration scope and pricing after the workshops

A6: The State is expecting a firm fixed price proposal. Please see Section 24 – Modifications in the CRFP documentation.

- Q7: Section 4.2.2.27, Data Conversion – The Agency has provided information on the expected data conversion process along with a list of required data conversions. Will the Agency please expand on this information and provide more detail about the data that needs to be migrated (e.g., type, quantity, format, fields, etc.)? This is key to developing a proper scope and services cost estimate
- A7: The State has provided in the RFP all of the information about data conversion which is available at this time. Vendors should clearly document in their Technical Proposal their assumptions which form the basis of their effort estimate for Data Conversion work.
- Q8: Section 4.2.2.27, Data Conversion – Data conversion typically requires detailed discussions (e.g., workshops) to provide a firm fixed price and scope. Will the Agency allow the Proponent to provide the workshops as part of the elaboration phase of the implementation project and then provide the defined data conversion scope and pricing after the workshops?
- A8: The State is expecting a firm fixed price proposal. Please see Section 24 – Modifications in the CRFP documentation.
- Q9: Section 4.3.11, TAB 5 “References” – A Proponent’s references are typically considered confidential due to the sensitive nature of the provided information. The RFP states that any information submitted will be disclosed regardless of its classification (e.g., confidential, trade secret, proprietary, etc.). Will the Agency please clarify if Proponent reference information will be protected? Or if it will be considered public information?
- A9: Please see Sections 21 and 31 in the CRFP documentation regarding “Your Submission is a Public Document”.
- Q10: Due Date Extension – Due to the RFP’s comprehensive scope and a large number of requirements (500+), will the Agency extend the proposal due date an additional two (2) weeks?
- A10: The bid opening has been extended to 09/30/2021. The bid opening time remains at 1:30 pm. Please read Section 6 – BID SUBMISSION in its entirety regarding technical and cost proposal submission. Submission of a response to a Request for Proposal (CRFP) is not permitted in wvOASIS.
- Q11: We would like to request a one month extension on the closing date for the RFP
- A11: The bid opening has been extended to 09/30/2021. The bid opening time remains at 1:30 pm

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

Term Contract

Initial Contract Term: This Contract becomes effective on upon award and the initial contract term extends until three (3).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be delivered to the Agency and then submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Unless otherwise specified below, renewal of this Contract is limited to (3) three successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Alternate Renewal Term – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

Fixed Period Contract: This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

Fixed Period Contract with Renewals: This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

One Time Purchase: The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

Other: See attached _____
Revised 07/01/2021

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DOT2200000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|---|--|
| <input type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Company

Authorized Signature

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

REQUEST FOR PROPOSAL
CRFP DOT22*02
WV DOT ROW SYSTEM RFP

SIGNED RFP DOCUMENTS

REQUEST FOR PROPOSAL
CRFP DOT22*02
WV DOT ROW SYSTEM RFP

Step 1: Lowest Cost of All Proposals / Cost of Proposal Being Evaluated = Cost Score Percentage

Step 2: Cost Score Percentage X Points Allocated to Cost Proposal = **Total Cost Score**

Example:

Proposal 1 Cost is \$1,000,000
Proposal 2 Cost is \$1,100,000
Points Allocated to Cost Proposal is 30

Proposal 1: Step 1 – $\$1,000,000 / \$1,000,000 =$ Cost Score Percentage of 1 (100%)
Step 2 – $1 \times 30 =$ Total Cost Score of 30

Proposal 2: Step 1 – $\$1,000,000 / \$1,100,000 =$ Cost Score Percentage of 0.909091 (90.9091%)
Step 2 – $0.909091 \times 30 =$ Total Cost Score of 27.27273

6.8. Availability of Information: Proposal submissions become public and are available for review immediately after opening pursuant to West Virginia Code §5A-3-11(h). All other information associated with the RFP, including but not limited to, technical scores and reasons for disqualification, will not be available until after the contract has been awarded pursuant to West Virginia Code of State Rules §148-1-6.3.d.

By signing below, I certify that I have reviewed this Request for Proposal in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this proposal for review and consideration; that I am authorized by the bidder to execute this bid or any documents related thereto on bidder's behalf; that I am authorized to bind the bidder in a contractual relationship; and that, to the best of my knowledge, the bidder has properly registered with any State agency that may require registration.

Delta soft Inc.

(Company)

David R. Bunn, Vice President

(Representative Name, Title)

302-399-3212

(Contact Phone/Fax Number)

September 29, 2021

(Date)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Delasoft Inc.

Authorized Signature: [Signature] Date: 9/29/21

State of Delaware

County of Kent, to-wit:

Taken, subscribed, and sworn to before me this 29th day of September, 2021.

My Commission expires 12/10, 2022

AFFIX SEAL HERE
CHARLES M BERRIE
Notary Public

NOTARY PUBLIC [Signature]

West Virginia Ethics Commission
Disclosure of Interested Parties to Contracts

(Required by W. Va. Code § 6D-1-2)

Name of Contracting Business Entity: Deesoft Inc. Address: 92 Leeds Way
New Castle

Name of Authorized Agent: Donald Burris Address: _____

Contract Number: _____ Contract Description: _____

Governmental agency awarding contract: _____

Check here if this is a Supplemental Disclosure

List the Names of Interested Parties to the contract which are known or reasonably anticipated by the contracting business entity for each category below (attach additional pages if necessary):

1. Subcontractors or other entities performing work or service under the Contract

Check here if none, otherwise list entity/individual names below.

2. Any person or entity who owns 25% or more of contracting entity (not applicable to publicly traded entities)

Check here if none, otherwise list entity/individual names below.

3. Any person or entity that facilitated, or negotiated the terms of, the applicable contract (excluding legal services related to the negotiation or drafting of the applicable contract)

Check here if none, otherwise list entity/individual names below.

Signature: Donald Burris Date Signed: 9/29/21

Notary Verification

State of Delaware, County of Kent:

I, Donald Burris, the authorized agent of the contracting business entity listed above, being duly sworn, acknowledge that the Disclosure herein is being made under oath and under the penalty of perjury.

Taken, sworn to and subscribed before me this 29th day of September, 2021.

Charles M. Berrie
Notary Public's Signature

be completed by State Agency:
Date Received by State Agency: _____
Date submitted to Ethics Commission: _____

